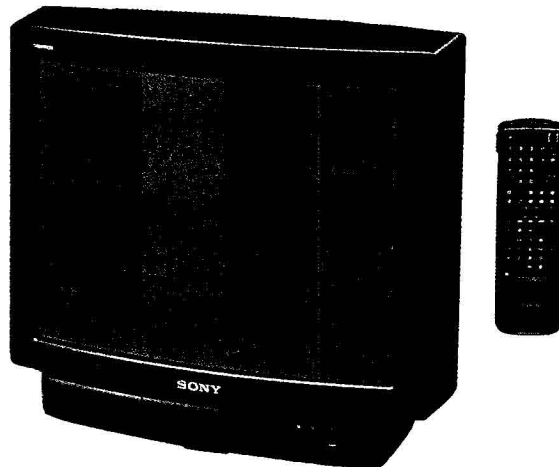


# KV-M2521U

## RM-816

## SERVICE MANUAL

UK Model  
Chassis No. SCC-E23F-A



## AE-1C CHASSIS

MODELS OF THE SAME SERIES	
KV-M2521U	
KV-A2112U/A2512U	
KV-E2522U/E2922U	

### 【KV-M2521U】

Television system I  
Color system PAL  
Channel coverage UHF : E21-E69  
Picture tube Trinitron tube  
Approx. 63 cm  
(Approx. 59 cm picture measured diagonally)  
110°-degree deflection

Inputs  
1 21-pin connector :  
CENELEC standard including RGB input.  
Front : 3  
Video input phono jack  
Audio input phono jack  
S Video input 4pin DIN

Outputs  
Y : 1Vp-p±3dB 75ohm  
C : 0.3Vp-p±3dB 75ohm  
21-pin connector : CENELEC standard  
Earphones jack : minijack

### SPECIFICATIONS

Sound output 10W (Music)  
Power consumption 117W  
Dimensions Approx. 577×523×491mm (w/h/d)  
Weight Approx. 34kg  
Supplied accessories RM-816 Remote Commander (1)  
IEC designation R6 batteries (2)

【RM-816】  
Remote control system infrared control  
Power requirements 3V dc  
2 batteries IEC designation  
R6 (size AA)  
Dimensions Approx. 75×221×23mm(w/h/d)  
Weight Approx. 230.g (including batters)  
Accessories supplied IEC designation R6 Commander

Design and specifications are subject to change without notice.

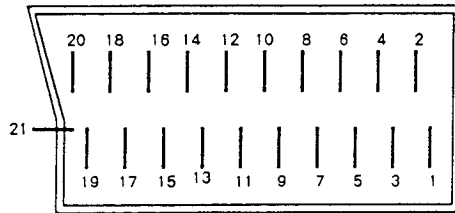


## TRINITRON® COLOUR TV

# SONY®



## 21-pin Euro Connector Configuration



PIN	SIGNAL	SPECIFICATION
1	Audio output	0.5Vrms/1kiloohm or less
2	Audio input	0.5Vrms/10kiloohms or more
3	Audio output	0.5Vrms/1kiloohm or less
4	Earth (audio)	
5	Earth (B-input)	
6	Audio input	0.5Vrms/10kiloohms or more
7	B-input	0.7Vp-p/75ohms
8	Function switching	9.5V to 12V
9	Earth (G-input)	
10		
11	G-input	0.7Vp-p/75ohms
12		
13	Earth (R-input)	
14	Earth (blanking)	
15	R-input	0.7Vp-p/75ohms
16	Fast blanking	1V to 3V/75ohms
17	Earth (video)	
18	Earth (fast blanking)	
19	Video output	1Vp-p/75ohms
20	Video input	1Vp-p/75ohms
21	Screening plug	

## 4 pin connector (52)


Pin No	Signal	Signal level
1	Ground	
2	Ground	
3	Y (S signal) input	1V ± 3dB 75ohm, positive Sync 0.3V; 1/10 dB
4	C (S signal) input	0.3V ± 3dB 75ohm positive



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## SAFETY-RELATED COMPONENT WARNING !!

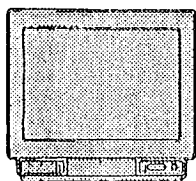
COMPONENTS IDENTIFIED BY SHADING AND MARK  ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.





## SECTION 1 GENERAL

### 1-1. SWITCHING ON/OFF




After you have completed the basic preparation your TV is ready to be connected to the mains power supply (220/240V -, 50Hz).

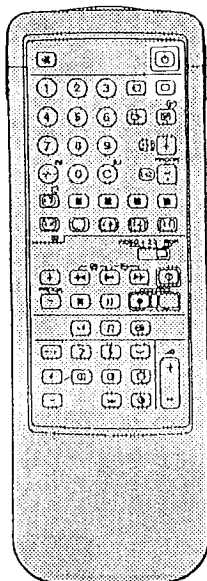


#### How to turn the TV on

Action	Result
Press  on the TV.	The TV will turn on. <b>Note:</b> If the screen remains blank, the TV may be in the standby mode. Press  to switch it on.

#### How to turn the TV off

A Temporarily	
Press  to enter standby mode.	The TV will be in standby. To return to the TV mode press  .
B Completely	
Press  on the TV.	The TV will turn off.




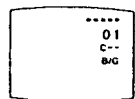
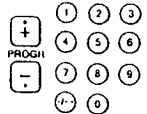
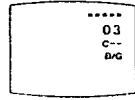
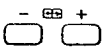
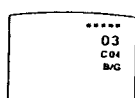
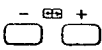
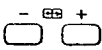


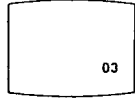
### 1-2. PRESETTING

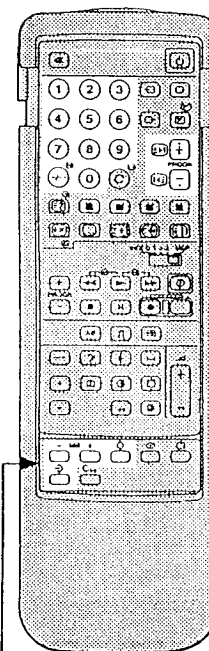
Before viewing the TV programmes you need to preset TV channels. There are 60 spaces available for storing these channels.

TV stations broadcast their channels at certain frequencies. You must preset these channels to programme numbers on the TV. If you are unfamiliar with the channel numbers of the stations you wish to preset, use "How to preset channels automatically". If you are familiar with the channel numbers refer to "How to preset TV channels directly".

Slide open the full function slide of the remote commander to reveal preset buttons.

#### How to preset channels automatically

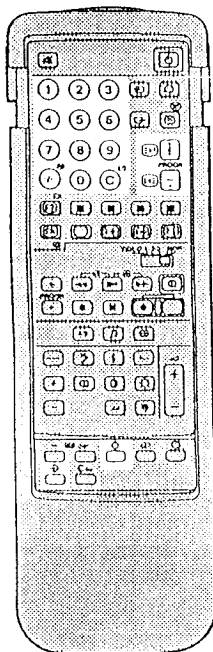
Action	Result
<b>1</b> Press  to enter the preset mode.	 The programme number will start flashing.
<b>2</b> Press PROG+/- or the number buttons to select the programme number to which you want to preset channels.  <b>Note</b> To select a double-digit number, use the -/-- button. For example, if you want to choose 23, press -/--, 2, and then 3.	 The programme number changes
<b>3</b> Press  + or - once to search forward or backward for channels.	 When a channel is tuned in, the search will stop. <b>Note</b> If you want to skip a channel, press  + or  -.
<b>4</b> Press  if you want to store the channel which is tuned in. Press  to exit preset mode without storing.	 The channel is now stored and you have returned to TV mode.
<b>5</b> Repeat steps 1 to 4 to store the other channels.	


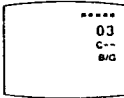

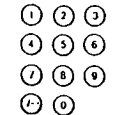
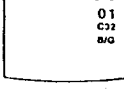

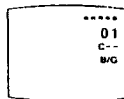
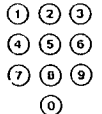
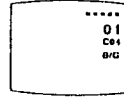

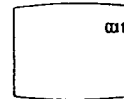


**Note:** These buttons should be used in preset mode only.



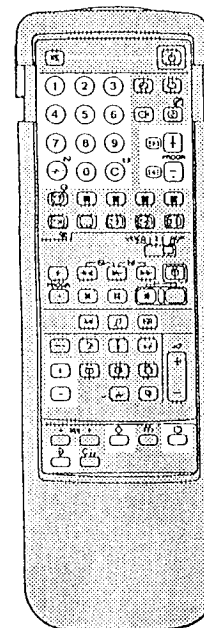
## How to preset channels directly


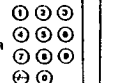
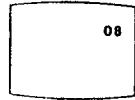

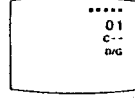

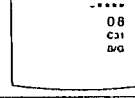

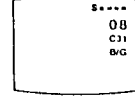

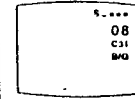

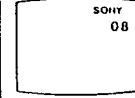


Action	Result
<b>1</b> Press $\rightarrow$ to enter the preset mode. 	 The programme number will start flashing.
<b>2</b> Press PROGR +/- or the number buttons to select the programme number on which you want to preset a channel.   <p><b>Note</b> To select a double-digit number, use the -/-- button. For example, if you want to choose 23, press -/--, 2, and then 3.</p>	 The programme number changes.
<b>3</b> Press C. If you want to select a cable channel, press C twice. 	 The indication "C--" ("S--" for a cable channel) starts flashing on the display.
<b>4</b> Select the channel number with two digits (e.g. 04) by pressing the number buttons.  <p><b>Note</b> Press the second number within 5 seconds after the first one, otherwise the operation will be cancelled.</p>	 The channel number changes. <p><b>Note</b> If you have made a mistake the letter "X" will appear. Repeat step 4 again.</p>
<b>5</b> Press $\diamond$ to store the channel which is tuned in. Press $\rightarrow$ to exit the preset mode without storing. 	 The channel is now stored and you have returned to TV mode.
Repeat steps 1 to 5 to store the other channels.	

## How to Name a Station

You can use up to five characters to "name" a channel or station (i.e. BBC1).



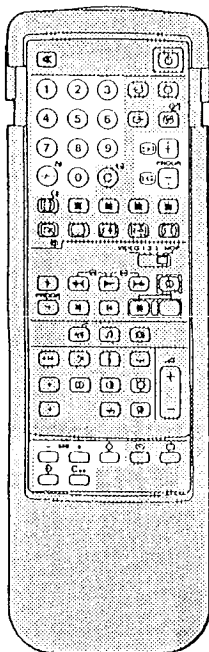
Action	Result
<b>1</b> Select a programme number you want to name by pressing the PROGR +/- or the number buttons  	 The selected programme number will appear.
<b>2</b> Press $\rightarrow$ . 	 The programme number starts flashing.
<b>3</b> Press $\square$ . 	 The first column of the station name indication will start flashing.
<b>4</b> Press + or - to select a letter in the alphabet, a number, or a blank space. 	 The letters of the alphabet, numbers and the space (" ") will appear sequentially.
<b>5</b> Press $\square$ . 	 The first character is now set and the second column will start flashing.
<b>6</b> Repeat steps 4 and 5 to set each letter.	
<b>7</b> Press $\diamond$ . 	 The channel is now stored and you have returned to TV mode.

## How to tune in a channel temporarily

You can tune a channel in temporarily, if it has not been preset.

Action	Result
<b>1</b> Press C. For cable channels, press C twice.	The indication "C" ("S" for cable channels) appears on the screen.
<b>2</b> Select the channel number with two digits by pressing the number buttons (e.g. for channel 4, first press 0, then 4.)	The channel is received, but it is not stored to any programme number.





### How to Skip Programmes

Using the PROGR +/- buttons you can skip unused programme channel numbers. However, the skipped numbers may still be called up using the number buttons.

Action	Result
<b>1</b> Press  to enter the preset mode.	The programme number will start flashing.
<b>2</b> Select the programme number that you want to skip by pressing PROGR +/- or the number buttons.	The programme number changes.
<b>3</b> Press Coo.	The lowest channel number appears under the programme number.
<b>4</b> Press O.	The channel is now stored and you have returned to TV mode.
Repeat steps 1 to 4 to skip other programme numbers.	

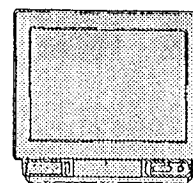
### How to Fine Tune Manually

If the picture is distorted, you can fine tune the channel manually.

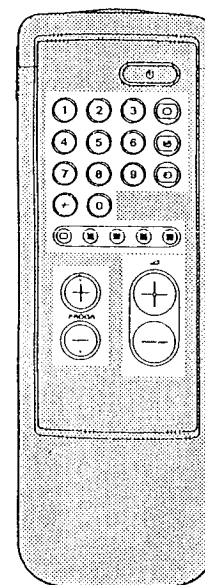
Action	Result
Press  + or - repeatedly until the picture looks normal.	The indication  appears on the screen.
Press  to enter the preset mode.	The programme number starts flashing.
Press O.	The fine tuning is stored.

## 1-3. BASIC TV OPERATION

Note: Press on door to open.



P → → →



This section introduces you to the basic control functions which are available on the simple side of the remote commander.

### How to Select Programmes

Before you can select programmes make sure that you have preset channels.

Action	Result
Press PROGR +/- or the number buttons. To select a double-digit number, use the -/-- button. For example, if you want to choose 23, press -/--, 2, and then 3.	The selected programme is displayed.

### How to Adjust the Volume

Action	Result
Press  or .	The volume markers will appear.

### How to Use Additional Functions

#### How to operate with the buttons on the TV

You can also select programmes and adjust the volume using the and +/- buttons on the front of the TV. For operation, first press the button repeatedly so that the P (for programme) or (for volume) indication appears on the screen, and then adjust with the +/- buttons.

#### Basic Teletext operation

Select:  
 The button to view the teletext.  
 The button to request subtitles (p.888).  
 One of the coloured buttons for Fastext operation.  
 The button to return to TV mode.

For details about teletext operation.

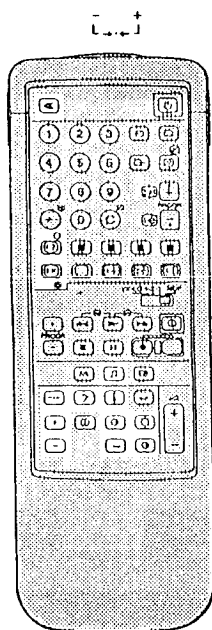
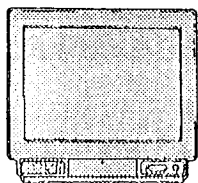
#### How to view the video input picture

Press . To return to the TV mode, press . For further details.



## 1-4. ADVANCED TV OPERATION

This section shows you how to use convenient features and how to adjust the picture and sound to your taste. Use the full-function side of the Remote Commander.



### How to use on-screen display and special sound features











You can enjoy the following convenient features.

How to	Action	To resume normal picture/sound
Display on-screen indications	Press <b>[C]</b> .	Indications disappear after some seconds
Display programme numbers	Press <b>[C]</b> twice	Press <b>[C]</b> twice again.
Mute the sound	Press <b>[M]</b> .	Press <b>[M]</b> again.
Set the sound to music listening position	Press <b>[J]</b> .	Press <b>[J]</b> again.
Request the time	Press <b>[D]</b> .	Press <b>[D]</b> again.

### How to adjust the picture and sound

Although the picture and sound have been adjusted at the factory, you might want to adjust them to your own taste. To do this, please follow the steps.

For picture adjustment

On picture equipment			
To Adjust:	Press:	Then:	Result: (+ ← -)
Picture:			
Colour Intensity		 	More ← Less
Picture Contrast			More ← Less
Brightness			Bright → Dark
Hue (for NTSC only)			Reddish → Greenish
Sound:			
Bass		 	More → Less
Treble			More → Less

To reset the picture and sound to factory set levels press **[+]** **[+]**.

On the set:

Press **[+]** **[+]** buttons simultaneously.

## 1-5. TELETEXT OPERATION

TV stations broadcast teletext programmes via the TV channels. To receive teletext programmes, use the buttons indicated in green on the full side of the Remote Commander.

### How to View the Teletext

Action	Result
<b>1</b> Select the channel which carries the teletext service you wish to see.	The channel changes on the screen.
<b>2</b> Press <b>[T]</b> .	If the teletext signal is not broadcast, then <b>P100</b> is displayed.
<b>3</b> Input three digits for the page number using the number buttons. <b>Note</b> If you make a mistake, type in any three digits, then re-enter the correct page number.	The numbers are entered on the screen. The requested page will appear in a few seconds.
<p>To return to the TV mode. Press <b>[C]</b>.</p> <p>To change the teletext channels First press <b>[C]</b> to return to the TV mode, then repeat steps 1 to 3.</p>	






**Note**

If the signal of the TV channel is weak, teletext errors may often occur.

### How to Use the Advanced Features of Teletext

How to	Action	Result (On-screen display)
Request the Index page.	Press <b>[I]</b> (INDEX).	The Index page appears.
Request the subtitle page (p888).	Press <b>[S]</b> .	The subtitle page is layed (p888).
Access the next or preceding page.	Press <b>[P]</b> (PAGE +) or <b>[M]</b> (PAGE -).	The next or preceding page appears.



How to	Action	Result
Superimpose the teletext display on the TV programme.	Press <b>⏏</b> once if you are in text mode, or press <b>⏏</b> twice if in TV mode. To return to the normal teletext display press <b>⏏</b> again.	 The teletext displays are superimposed on the TV programmes.
Prevent a teletext page from being updated or changed.	Press <b>⏏</b> (HOLD). To resume normal teletext reception, press <b>⏏</b> .	 The HOLD symbol ( <b>⏏</b> ) appears on the screen and the chosen sub-page is held until you cancel.
Enlarge the teletext display.	Press <b>⏏</b> once to enlarge the upper half. Press twice to enlarge the lower half. Press again to restore the normal display.	 The upper half is enlarged.
Reveal concealed information (e.g. answers to a quiz).	Press <b>⏏</b> (REVEAL). Press again to conceal the information.	 The information is revealed.
Watch the TV programme while waiting for a requested page to be displayed.	1. Request a new page.	The numbers are entered.
	2. Press <b>⏏</b> (TEXT CL).	The TV program is displayed, and the requested page number and other teletext data appear at the top of the screen.
	3. When the requested page has been captured, the page number remains and the other data disappears.	 P201
	4. Press <b>⏏</b> to view this page.	The requested page is displayed.
Have a requested page displayed at a pre-determined time.	1. Request a desired page.	The requested page is displayed.
	2. Press <b>⏏</b> (TP ON).	"T....." appears at the bottom of the screen or "0001" at the top.
	3. Enter the time you want to have the page displayed with four digits using the number buttons. (For example, enter 0730 for 7:30 AM.)	The time is entered on the screen.
	4. Press <b>⏏</b> (TEXT CL) to watch the TV programme until the requested time. To cancel the request Display the teletext page, then press <b>⏏</b> (TP OFF).	The request is cancelled. To resume TV mode press <b>⏏</b> .

Some of the features may not be available depending on the Teletext service.

## 1-6. OPERATION CONNECTIONS/OPERATIONS

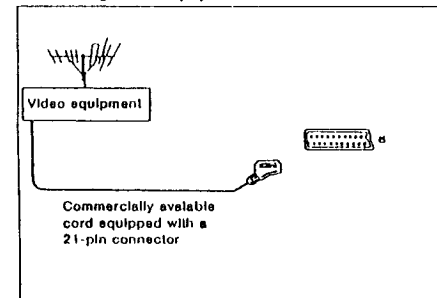
You can connect video equipment such as VTRs and video disc players to the TV..

### How to connect video equipment to the TV

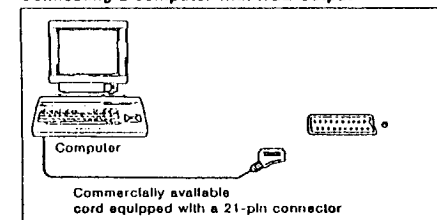
This TV has one Input connector.

Connector	Acceptable Input signal
1- <b>⏏</b>	Normal Video and RGB-Signal
- <b>⏏</b> , <b>⏏</b> , <b>⏏</b> vorne am Gerät	Normal Video- and Video-S-Signal

#### Connecting video equipment

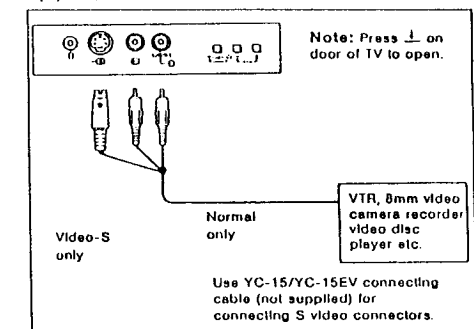


#### Connecting a computer with RGB output



#### Connecting video equipment temporarily

It is convenient to use the front connectors when connecting equipment such as a vide camera recorder.



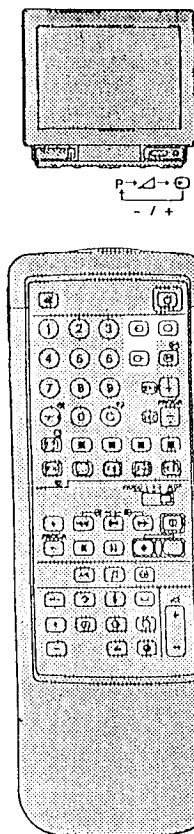
To connect a VTR using the **⏏** terminal  
Connect the aerial output of the VTR to the aerial terminal **⏏** of the TV.

#### S video Input (Y/C Input)

Video signals may be separated into Y (luminance or brightness) and C (chrominance) signals. Separating the Y and C signals prevents them from interfering with one another, and therefore improves picture quality (especially luminance). This TV is equipped with an S video input jack through which these separated signals can be input directly.

If the picture or the sound is distorted  
Move the VTR away from the TV.


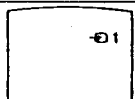



















### How to view the video Input picture

You can view the picture of video equipment connected to the input terminals by selecting the input mode.

#### Operation

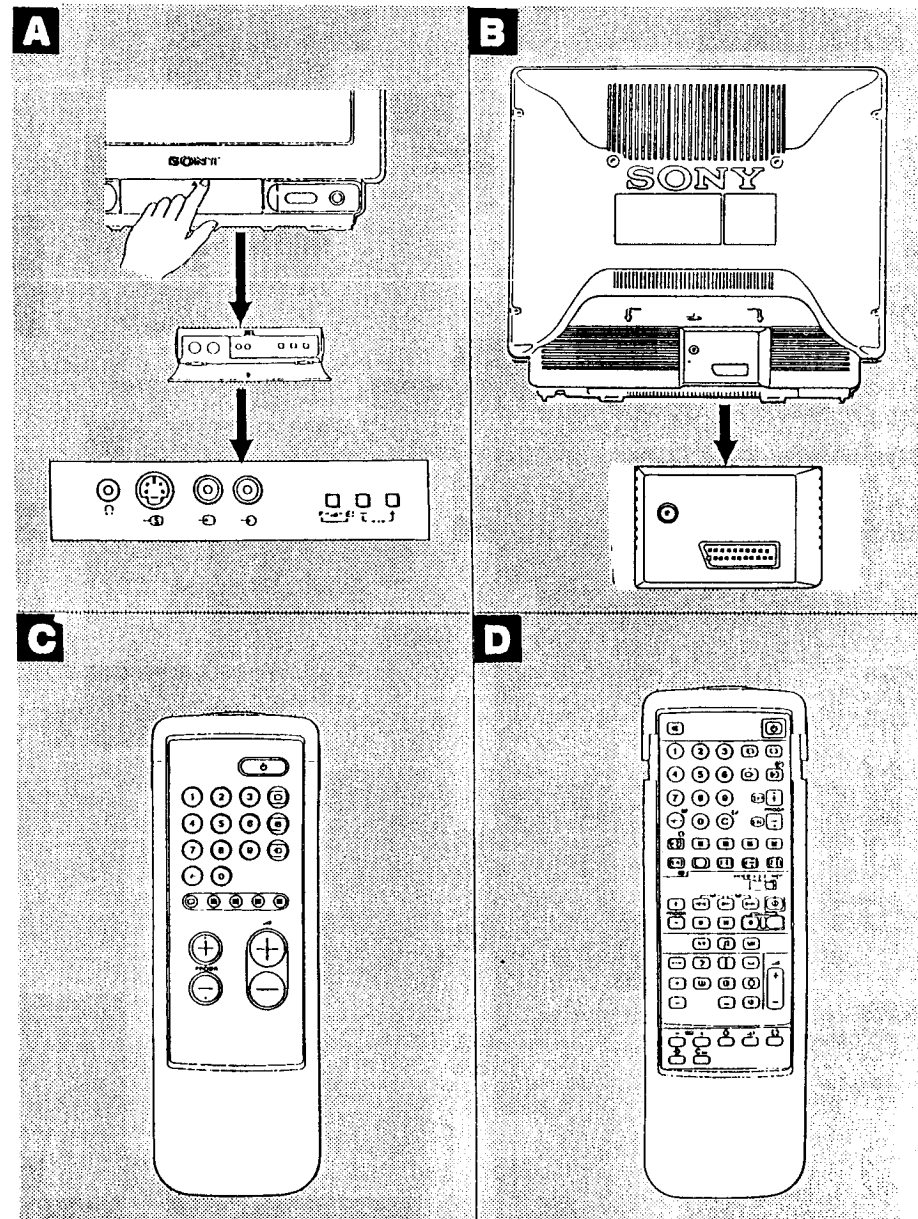
Action	Result
Press  repeatedly to select the desired input.	  1      Symbol for the selected input appears. (See the table below.)
To return to the TV mode, press the  button.	

#### Input modes

Symbol	Result
	Audio/video input through the  connector.
	RGB input through the  connector.
	Audio/video input through  and  jacks on the front.
	S video input through the  connectors on the front (4-pin connector).
You can also select the input mode using the    button on the TV. In this case, first select  , and then press +/- buttons to select the input.	

## 1-7. ADDITIONAL INFORMATION

### Parts Identification





This section briefly describes the buttons and controls on the TV set and on the Remote Commander.  
For more information, refer to the pages given next to each description.

A TV set — Front		
Sign	Name	Refer to page
	Main power switch	
	Standby Indicator	
	Headphones Jack (stereo minijack)	
	Function selector (Programme/volume/Input)	
	Adjustment buttons for function selector	

B TV set — Rear	
Sign	Name
	21-pin Euro-AV connector (RGB/video input, TV output)
	Aerial terminal (IEC type)

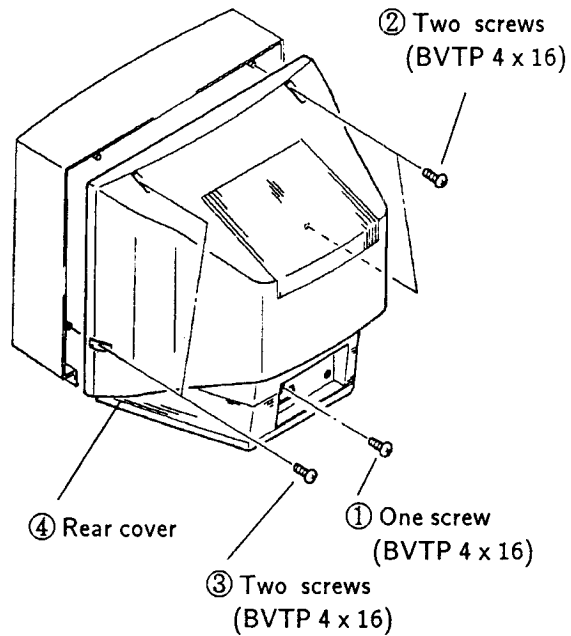
C Remote Commander — simple side	
Sign	Name
	Input mode selector
	Teletext button
	TV mode selector
	Standby button
1,2,3,4,5, 6,7,8,9, and 0	Number buttons
-/--	Double-digit entering button
	Volume control button
PROG +/-	Programme selector

D Remote Commander — full function side	
Sign	Name
	Mute on/off button
	Standby button
1,2,3,4,5, 6,7,8,9, and 0	Number buttons
	Input mode selector
	TV power on/TV mode selector button
	Teletext button
	Music button
-/--	Double-digit entering button
C	Direct channel entering button
	Request time display
	Teletext operation buttons
	On-screen display button
+++	Picture and sound adjustment reset button
	Volume control
PROG +/-	Programme selector
	Picture and sound controls
VIDEO 1/2/3, MDP	Video equipment selector
	Video equipment operation buttons
000	Programme number clear button
	Channel preset button
- [4] +	Tuning buttons
	Channel store button
	Station label button

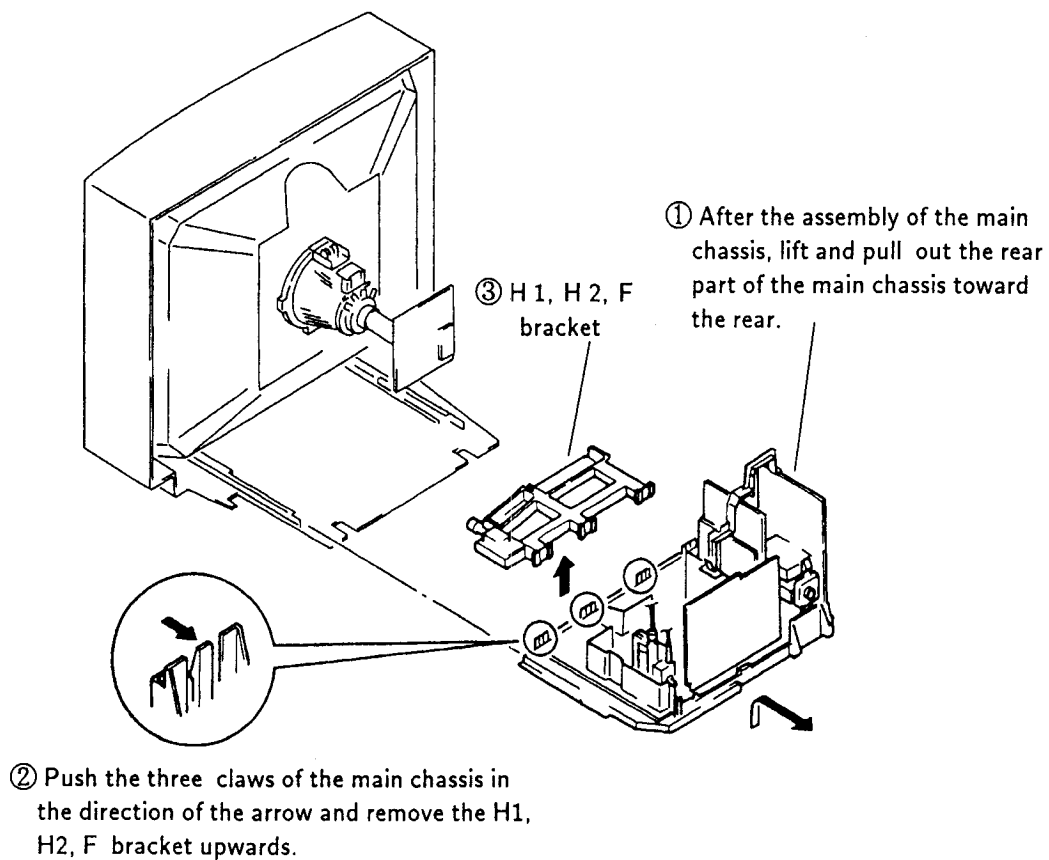


## SECTION 2 DISASSEMBLY

### 2-1. REAR COVER REMOVAL

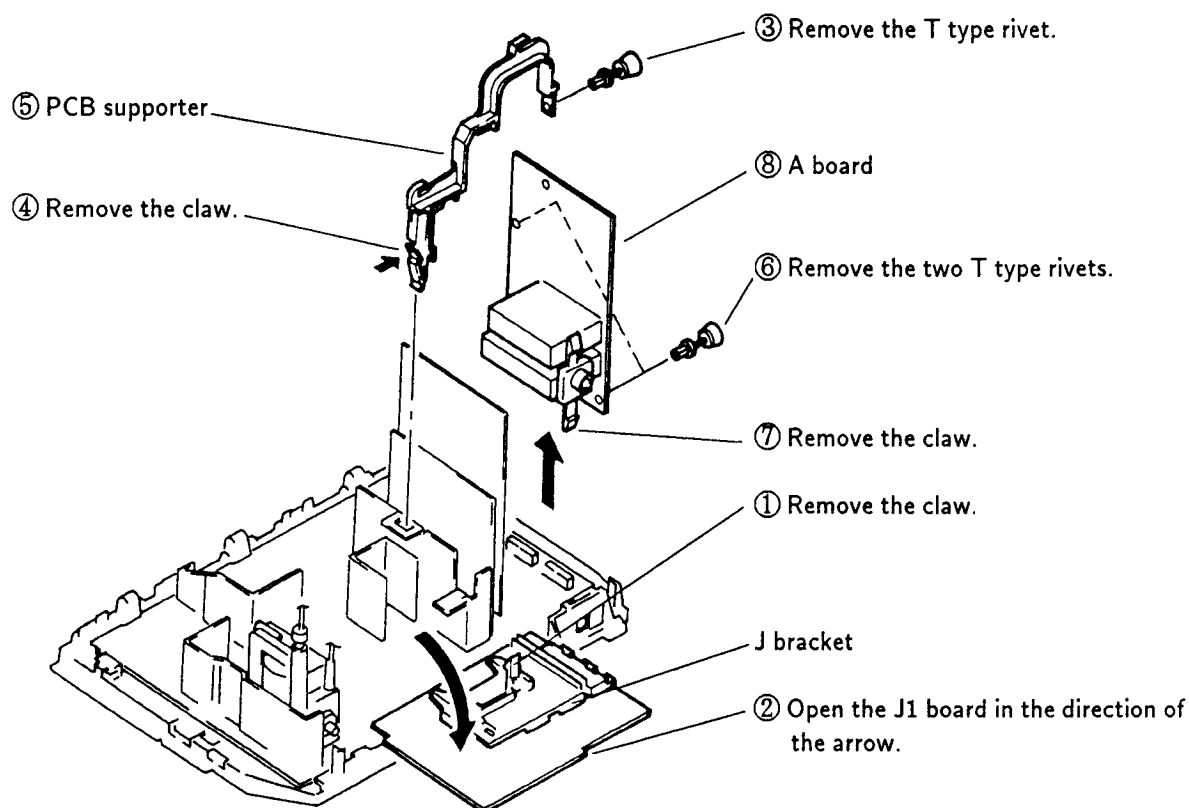


### 2-2. CHASSIS ASSEMBLY REMOVAL

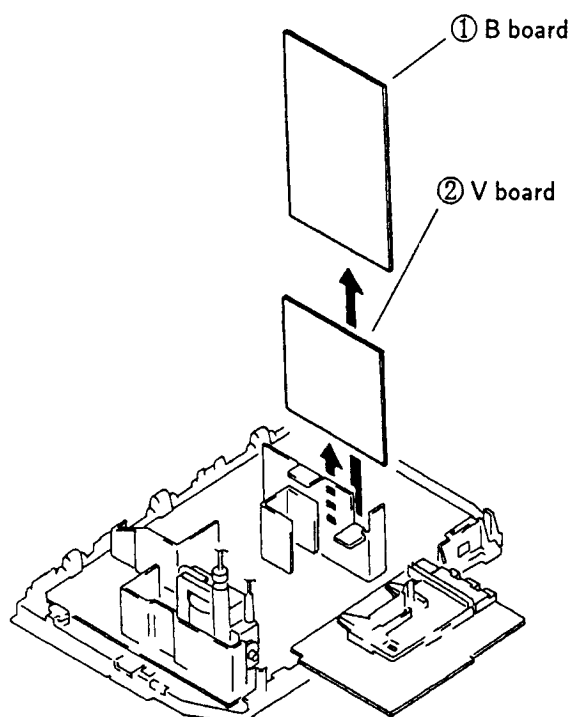




## 2-3. A AND J1 BOARDS REMOVAL

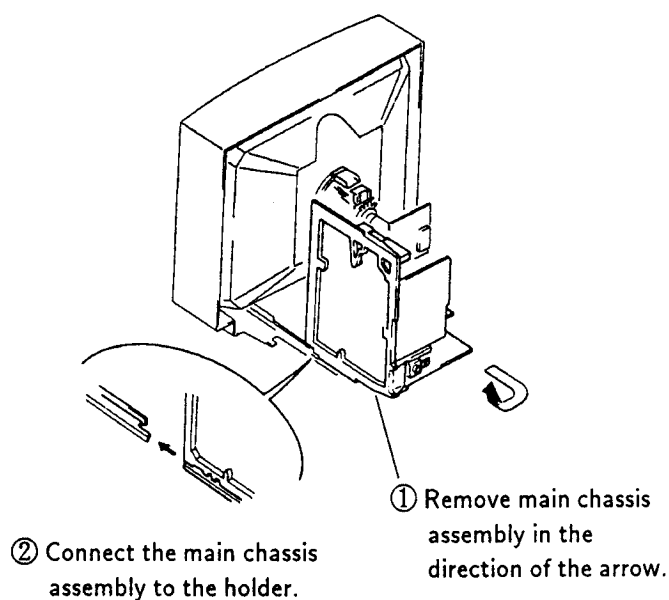


## 2-4. B AND V BOARDS REMOVAL



## 2-5. SERVICE POSITION

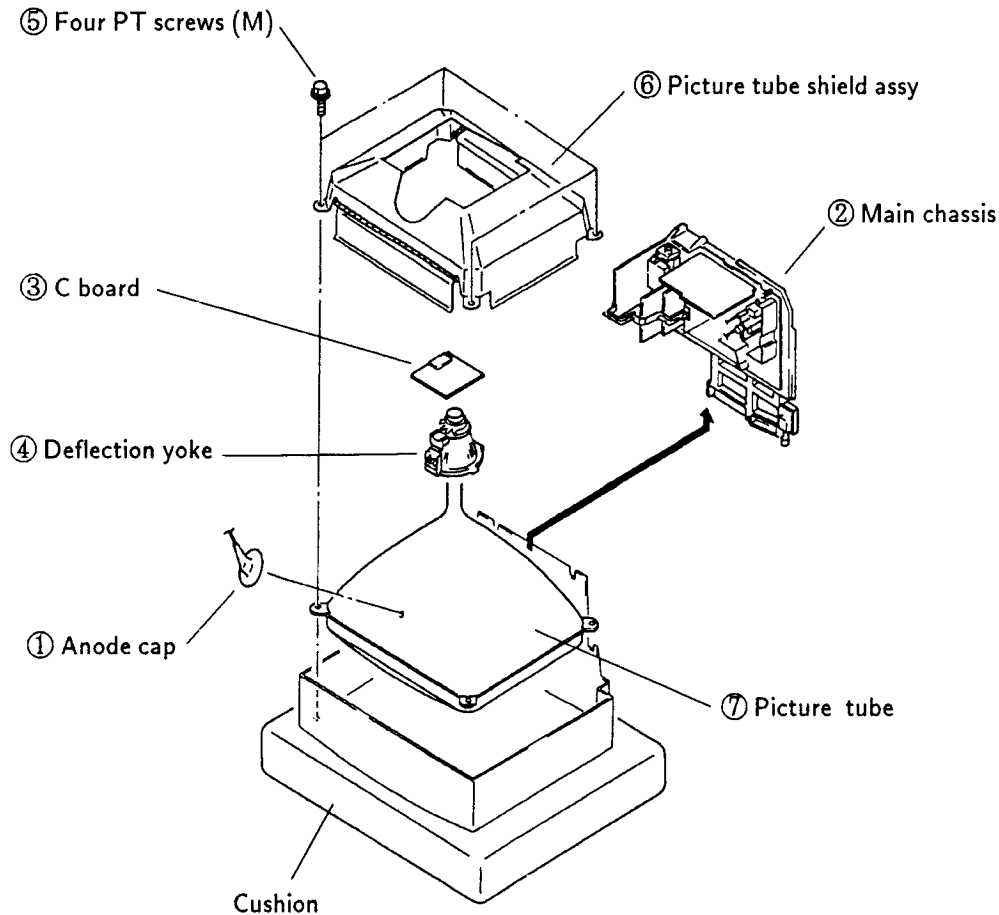
※ Remove the H 1, H 2, F bracket from the main chassis assembly and then perform the following servicing.  
(Refer to 2-2. CHASSIS ASSEMBLY REMOVAL.)



Note : 10 pin extension cable (S-0945-001-0)

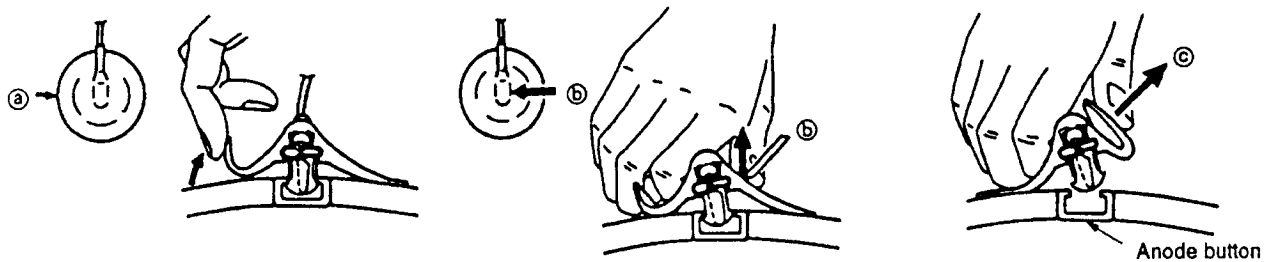


## 2-6. PICTURE TUBE REMOVAL



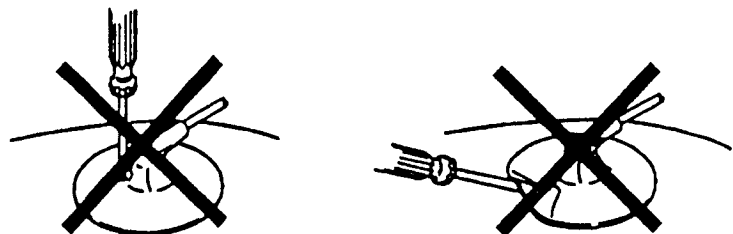
### • REMOVAL OF ANODE-CAP

#### • REMOVING PROCEDURES



#### • HOW TO HANDLE AN ANODE-CAP

- ① Don't hurt the surface of anode-caps with sharp shaped material!
- ② Don't press the rubber hardly not to hurt inside of anode-caps!  
A material fitting called as shatter-hook terminal is built in the rubber.
- ③ Don't turn the foot of rubber over hardly!  
The shatter-hook terminal will stick out or hurt the rubber.





## SECITON 3

### SET-UP ADJUSTMENTS

- When complete readjustment is necessary or a new picture tube is installed, carry out the following adjustments.
- Unless there is specific instruction to the contrary, carry out these adjustments with the rated power supply.
- Unless there is specific instruction to the contrary, set the controls and switches this way :
  - Contrast .....80%  
(or remote control normal)
  - ⚙ Brightness .....50%

- Carry out the following adjustments in this order:
  1. Beam landing
  2. Convergence
  3. Focus
  4. White balance

- Note :** Testing equipment required
1. Color bar/pattern generator
  2. Degausser
  3. DC power supply
  4. Digital multimeter
  5. Oscilloscope

#### Preparations :

- In order to reduce the influence of geomagnetism on the set's picture tube face it east or west.
- Switch on the set's power and degauss with the degausser.

#### 3-1. BEAM LANDING

1. Input the white signal with the pattern generator.
 

Contrast	} normal
Brightness	
2. Position neck ass'y as shown in Fig 3-2.
3. Set the pattern generator raster signal to red.
4. Move the deflection yoke to the rear and adjust with the purity control so that the red is at the center and the blue and the green take up equally sized areas on each side.  
(See Figures 3-1 through 3-3.)
5. Move the deflection yoke forward and adjust so that entire screen is red. (See Figure 3-1.)
6. Switch the raster signal to blue, then to green and verify the condition.
7. When the position of the deflection yoke has been decided, fasten the deflection yoke with the screws.
8. If the beam does not land correctly in all the corners, use a magnet to adjust it.  
(See Figure 3-4.)

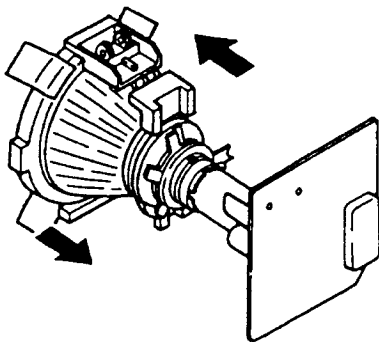


Fig. 3-1

Fig. 3-2

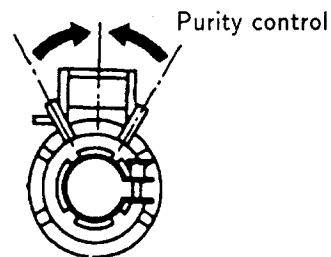


Fig. 3-3

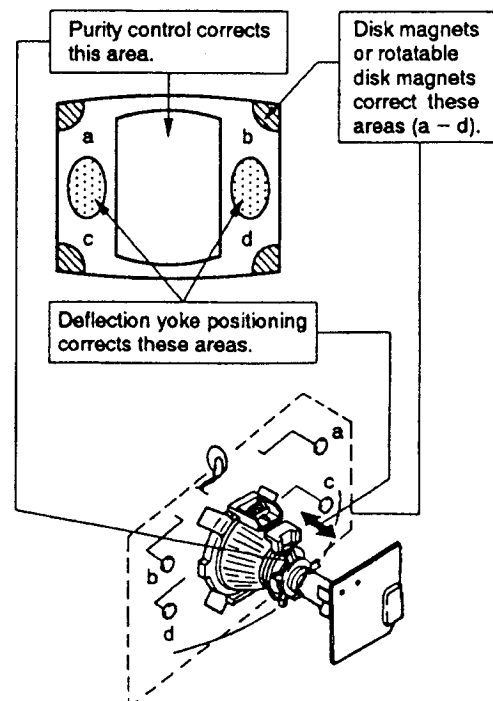
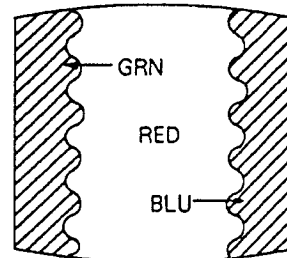


Fig. 3-4

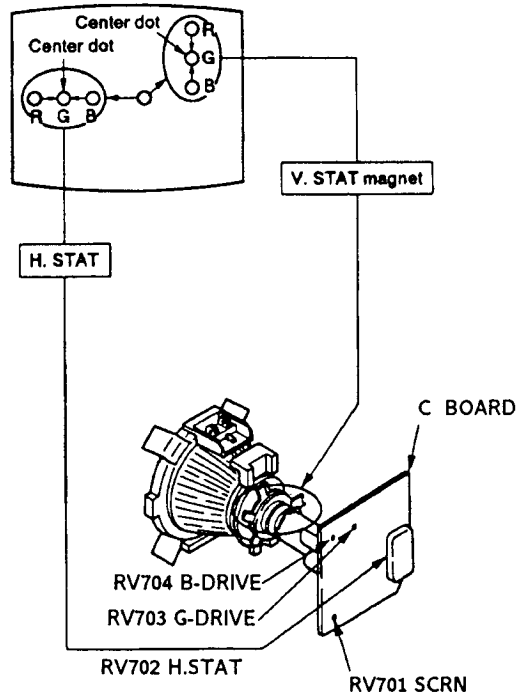


### 3-2. CONVERGENCE

#### Preparations :

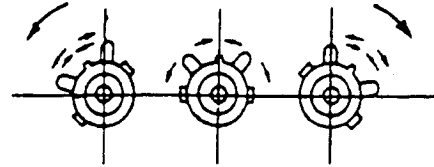
- Before starting this adjustment, adjust the focus, horizontal size, and vertical size.
- Minimize the brightness setting.
- Provide dot pattern.

#### (1) Horizontal and vertical static convergence

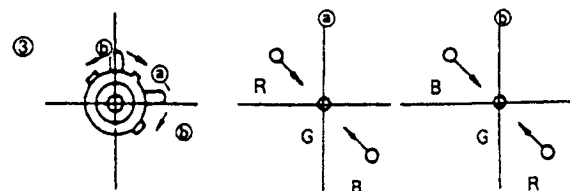
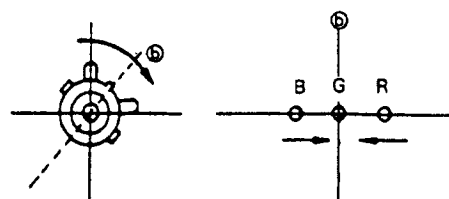
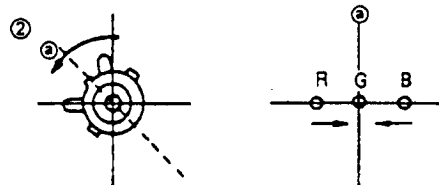
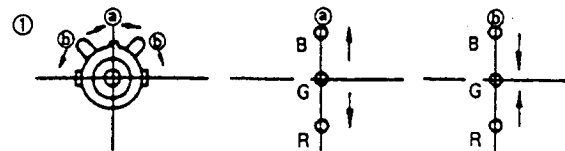


1. (Moving horizontally), adjust the H. STAT control so that the red, green, and blue points are on top of each other at the center of the screen.
2. (Moving vertically), adjust the V. STAT magnet so that the red, green, and blue points are on top of each other at the center of the screen.
3. If the H. STAT variable resistor cannot bring the red, green, and blue points together at the center of the screen, adjust the horizontal convergence with the H. STAT variable resistor and the V. STAT magnet in the manner given below. (In this case, the H. STAT variable resistor and the V. STAT magnet influence each other)

- Tilt the V. STAT magnet and adjust the static convergence by opening or closing the V. STAT magnet.

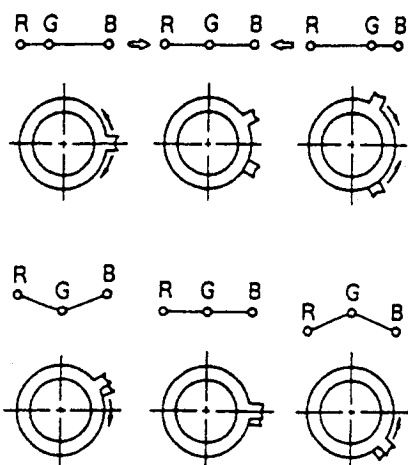


4. If the V. STAT magnet is moved in the direction of the ② and ③ arrows, the red, green, and blue points move as shown below.



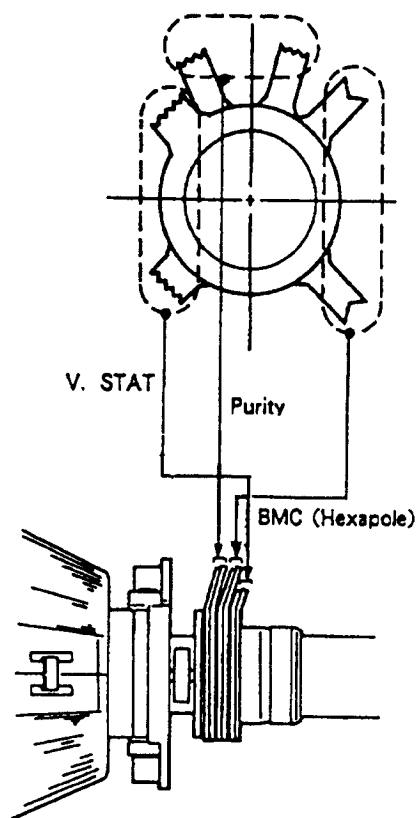


● Operation of BMC (Hexapole) Magnet



- The respective dot positions resulting from moving each magnet interact, so be sure to perform adjustment while tracking.

Use the H.STAT VR to adjust the red, green, and blue dots so they coincide at the center of screen (by moving the dots in the horizontal direction).

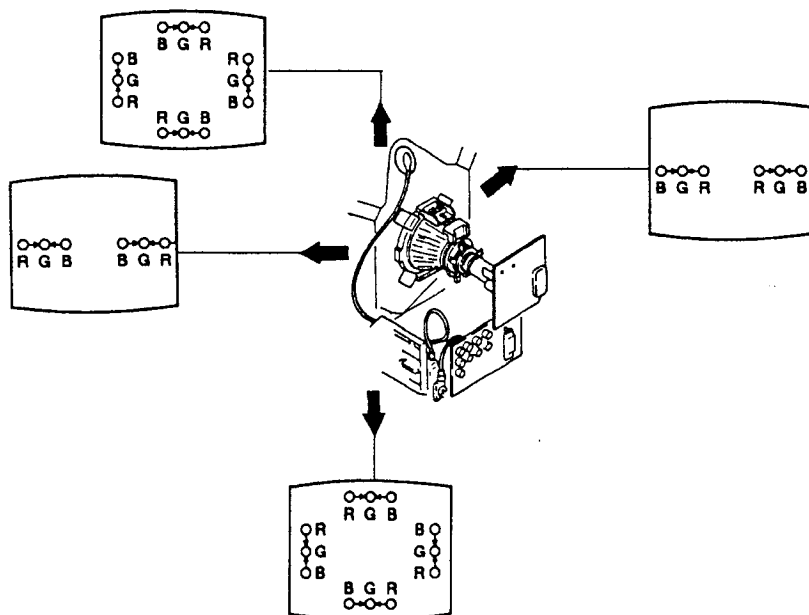


(2) Dynamic convergence adjustment

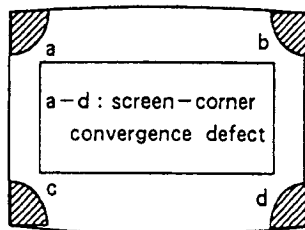
Preparations :

Before starting this adjustment, adjust the horizontal static convergence and the vertical static convergence.

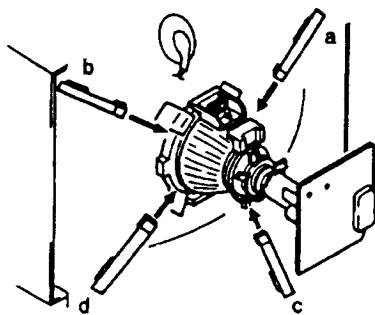
1. Slightly loosen the deflection yoke screws.
2. Remove the deflection yoke spacer.
3. Move the deflection yoke as shown in the figure below and optimize the convergence.
4. Tighten the deflection yoke screws.
5. Install the deflection yoke spacer.





**Screen corner convergence**

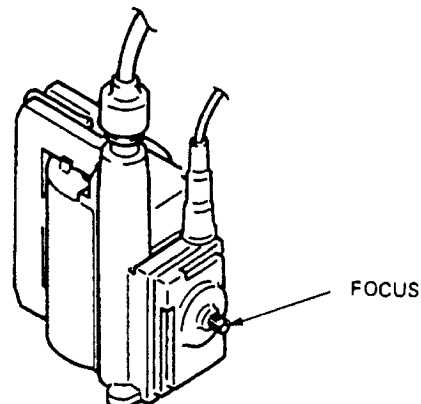
Install the permalloy assembly for the section with faulty.



permalloy ass'y, correction.

**3-3. FOCUS**

Adjust the focus to optimize the screen.

**3-4. WHITE BALANCE****[ Screen G2 setting ]**

1. Input the dot signal from the pattern generator.
2. Set the picture brightness control to its lowest level.
3. Apply 170V DC to the R, G, and B cathodes with an external power supply.
4. While watching the picture, adjust G2 control RV701 (Screen) to the point just before the return lines disappear.

**[ White balance adjustment ]**

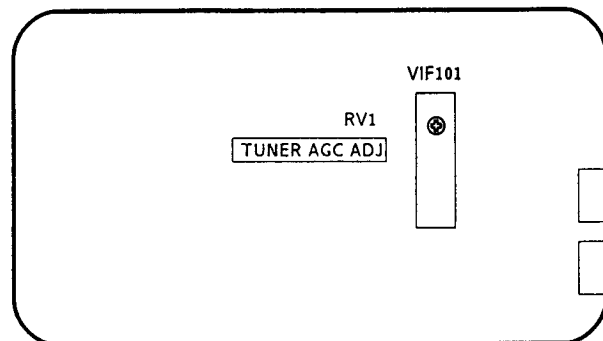
1. Input an all-white signal from the pattern generator.
2. Set the picture brightness and color controls to their normal levels.
3. Use the RV704 (B Drive) and RV703 (G Drive) to adjust white balance.

In the adjustments below, have the picture color and brightness settings at their normal levels unless there is a specific instruction to the contrary.



## SECTION 4 CIRCUIT ADJUSTMENTS

### 4-1. A BOARD ADJUSTMENT

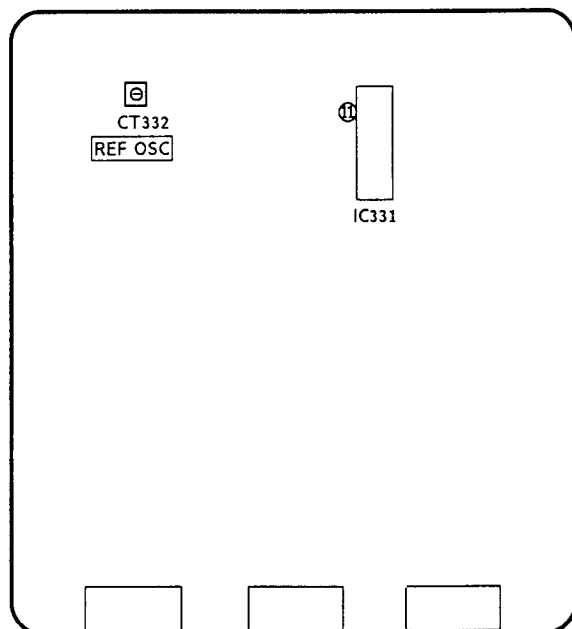


A BOARD (COMPONENT SIDE)

#### TUNER AGC ADJUSTMENT (VIF101, RV1)

1. Align with an appropriate signal between stations.
2. Adjust RV1 so that snow noise and cross modulation just disappear from the picture.

### 4-2. B BOARD ADJUSTMENT

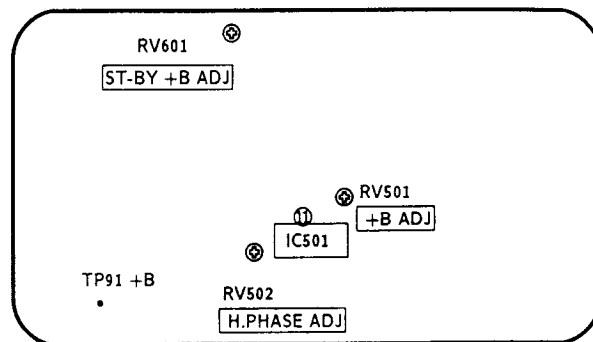


B BOARD (COMPONENT SIDE)

#### REFERENCE OSCILLATOR ADJUSTMENT (CT332 8.8MHz)

1. Input a PAL color bar signal.
2. Ground pin ⑪ of the IC331.
3. Adjust CT332 to obtain synchronization.

### 4-3. D BOARD ADJUSTMENTS



D BOARD (COMPONENT SIDE)

#### +B ADJUSTMENT (RV501)

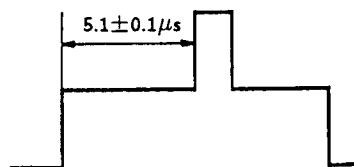
1. Connect the digital multimeter to TP91.
2. Adjust RV501 to obtain  $135 \pm 0.2V$ .

#### ST-BY +B ADJUSTMENT (RV601)

1. Put the system into ⏻ standby mode (remote commander).
2. Connect the digital multimeter to TP91.
3. Adjust RV601 to obtain  $135 \pm 3V$ .
4. Take the system out of ⏻ standby mode (remote commander).

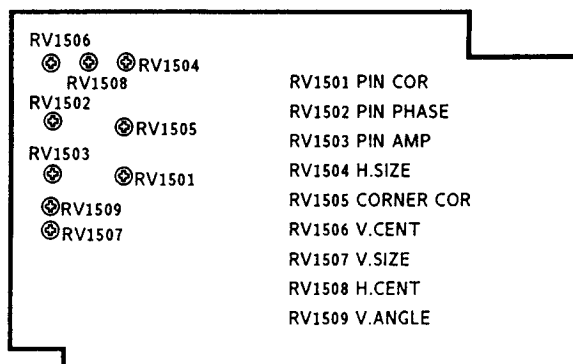
#### H.PHASE ADJUSTMENT (RV502)

1. Input a PAL color bar signal.
2. Set the picture and brightness controls to their normal levels.
3. Set RV1508 (H.CENT) to its mechanical center.
4. Connect the oscilloscope to pin ⑪ (SCP) of IC 501.
5. Rotate RV502 to adjust to  $5.1 \pm 0.1\mu s$ .

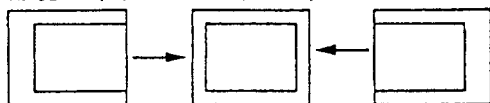
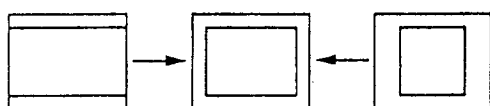
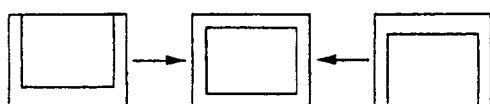
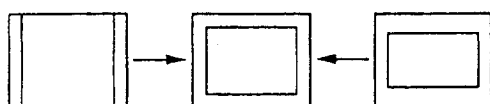
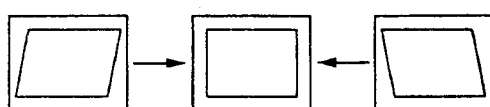
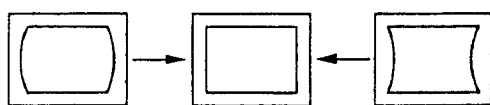
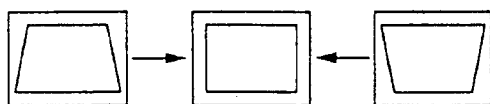




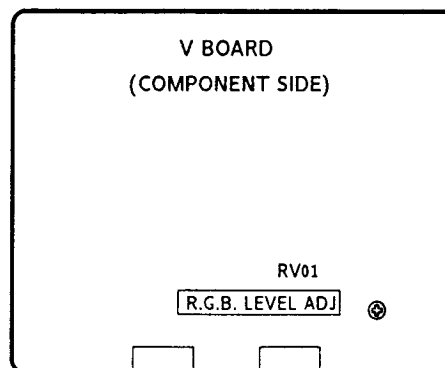
## 4-4. J1 BOARD ADJUSTMENTS



## J1 BOARD (COMPONENT SIDE)

RV1508  
H. CENT (HORIZONTAL CENTER)RV1504  
H. SIZE (HORIZONTAL SIZE)RV1506  
V. CENT (VERTICAL CENTER)RV1507  
V. SIZE (VERTICAL SIZE)RV1509  
V. ANGLE (VERTICAL ANGLE)RV1503  
PIN AMP (PINCUSHION AMPLIFIER)RV1502  
PIN PHASE (PINCUSHION PHASE)RV1501  
PIN. COR (PINCUSHION CORRECT)RV1505  
CORNER COR (CORNER CORRECT)

## 4-5. V BOARD ADJUSTMENT



## RGB LEVEL ADJUSTMENT (RV01)

1. Maximize the picture setting.
2. Adjust RV01 so that the RGB output is 0.75V.



## 4-6. SECONDARY ADJUSTMENTS

### SUB BRIGHTNESS ADJUSTMENT

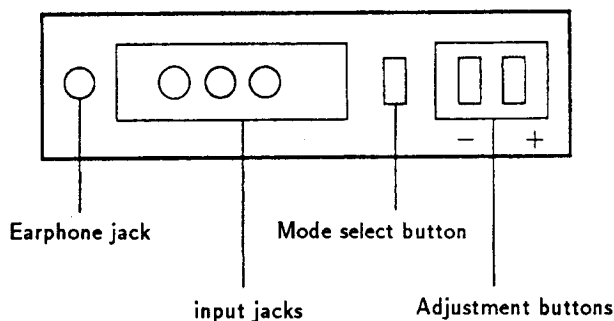
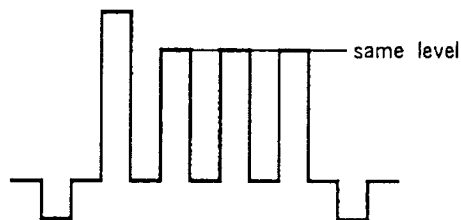
1. Set the system to receive a test pattern.
2. Press  $\rightarrow \bullet \leftarrow$  on the remote commander to put the system into normal mode.
3. Switch off the power.
4. While depressing the adjusting buttons + and - simultaneously, turn on the power. (SUB mode is obtained)
5. Minimize the  $\bullet$  contrast setting.
6. Adjust the  $\odot$  brightness control so that the gray scale 0 IRE section is cut off completely and the 20 IRE section is barely glowing.
7. Depress the  $\diamond$  (store) button of the remote commander.  
(SUB mode is released)

If there is no test color pattern

1. Set the system to receive a color pattern.
2. Press  $\rightarrow \bullet \leftarrow$  on the remote commander to put the system into normal mode.  
Set the  $\odot$  color to its normal state.
- 3-5. Steps are the same as above.
6. Since 20 IRE is nearly blue, adjust the  $\odot$  brightness control so that the blue barely glows.
7. Same as step 7 above.
8. Press  $\rightarrow \bullet \leftarrow$  on the remote commander to put the system into normal mode.

### SUB COLOR ADJUSTMENT

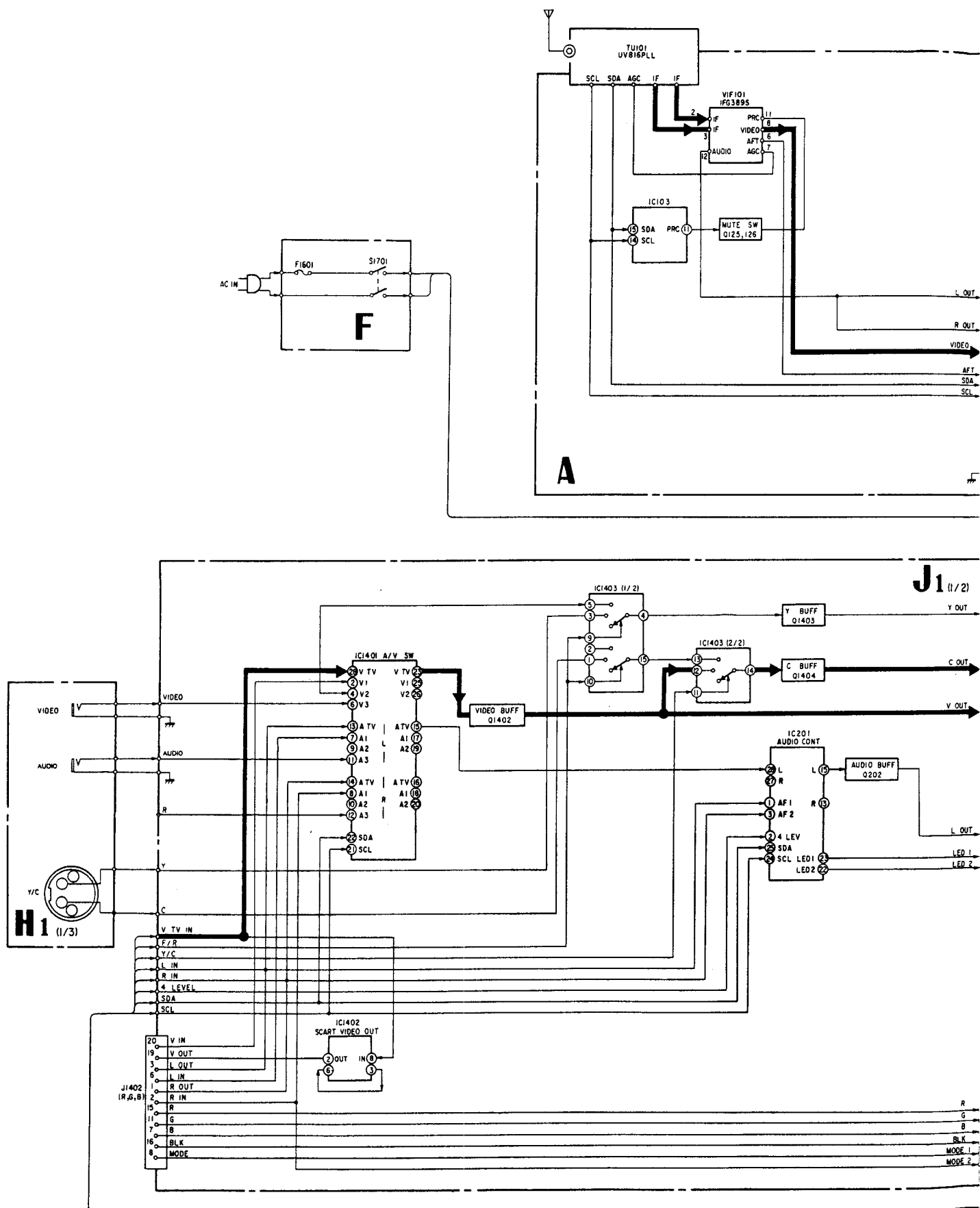
1. Set the system to receive color bars.
2. Press  $\rightarrow \bullet \leftarrow$  on the remote commander to put the system into normal mode.
3. Cut off the power.
4. While depressing the adjustment buttons + and - simultaneously, turn on the power. (SUB mode is obtained).
5. Adjust the color control so that the B out waveform (pin ⑤ of C board connector CNC72) is as shown in the figure below.
6. Depress the  $\diamond$  (store) button of the remote commander. (SUB mode is released)



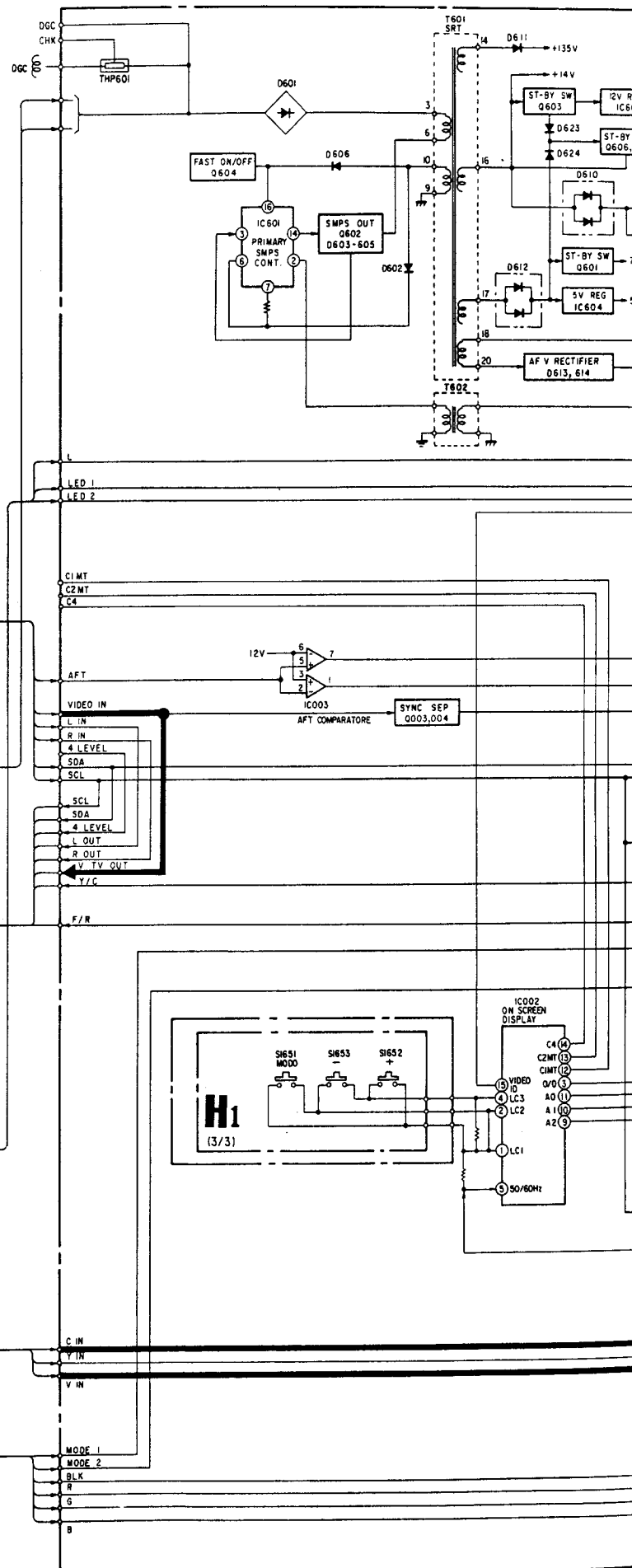
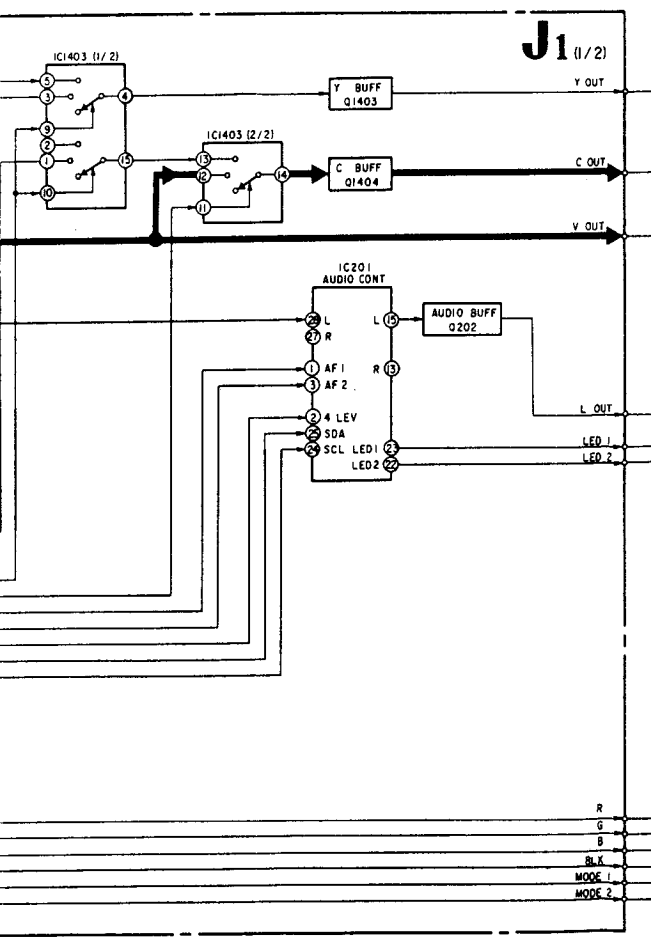
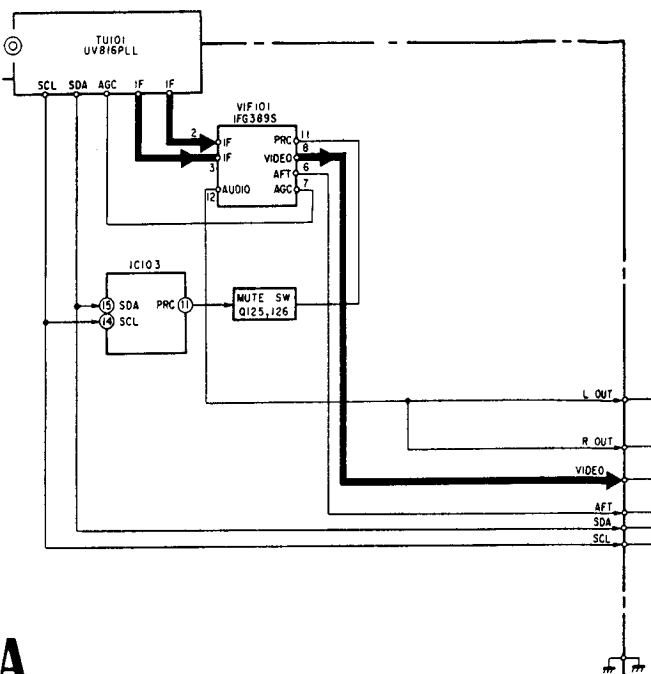


SECTION 5  
DIAGRAMS

## 5-1. BLOCK DIAGRAM





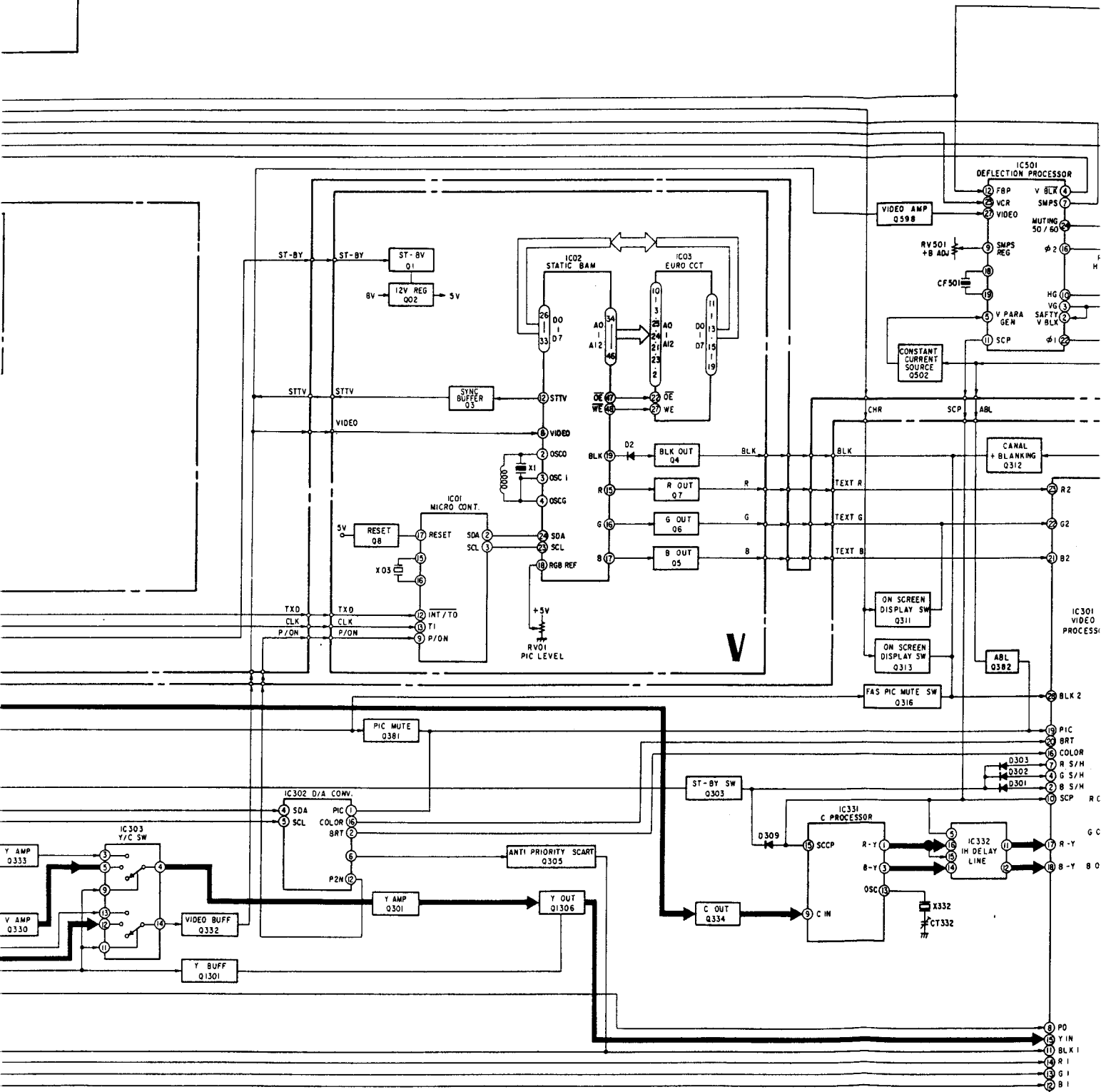




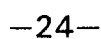




D

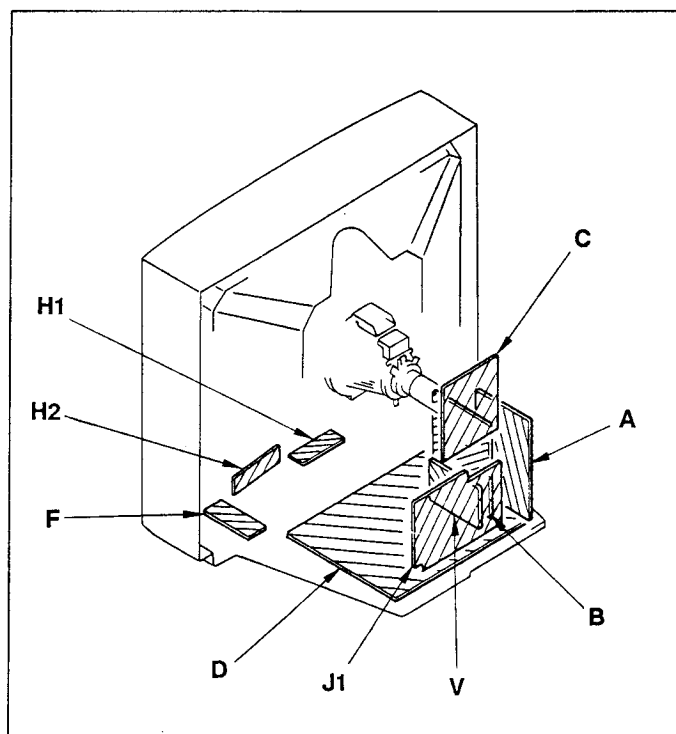
H105  
HP







## 5-2. CIRCUIT BOARDS LOCATION



## 5-3. SCHEMATIC DIAGRAMS AND PRINTED WIRING BOARDS – Conductor Side –

## Note:

- All capacitors are in  $\mu\text{F}$  unless otherwise noted. pF:  $\mu\text{F}$  50 WV or less are not indicated except for electrolytic and tantalums.
- All resistors are in ohms.  
 $\text{k}\Omega = 1000\Omega$ ,  $\text{M}\Omega = 1000\text{K}\Omega$
- Indication of resistance, which does not have one for rating electrical power, is as follows.

Pitch: 5 mm  
Rating electrical power  $\frac{1}{4}$  W

- : nonflammable resistor.
- $\triangle$  : internal component.
- : panel designation, or adjustment for repair.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- $\perp$  : earth-ground.
- $\text{---}\text{||}\text{---}$  : earth-chassis.
- $\text{---}\text{||}\text{---}$  : no mounted.

**Note:** The components identified by shading and mark are critical for safety. Replace only with part number specified.

## Reference information

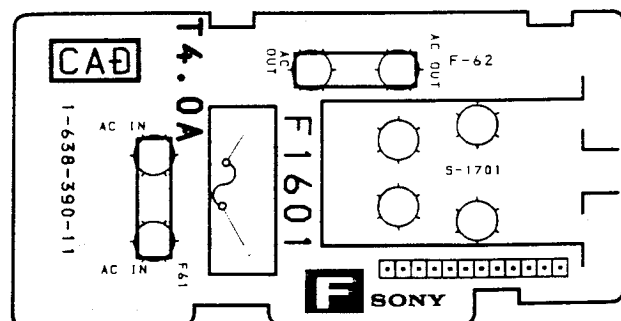
RESISTOR	: RN	METAL FILM
	: RC	SOLID
	: FPRD	NONFLAMMABLE CARBON
	: FUSE	NONFLAMMABLE FUSIBLE
	: RS	NONFLAMMABLE METAL OXIDE
	: RB	NONFLAMMABLE CEMENT
	: RW	NONFLAMMABLE WIREWOUND
COIL	: ※	ADJUSTMENT RESISTOR
	: LF-8L	MICRO INDUCTOR
CAPACITOR	: TA	TANTALUM
	: PS	STYROL
	: PP	POLYPROPYLENE
	: PT	MYLAR
	: MPS	METALIZED POLYESTER
	: MPP	METALIZED POLYPROPYLENE
	: ALB	BIPOLAR
	: ALT	HIGH TEMPERATURE
	: ALR	HIGH RIPPLE

- Readings are taken with a color-bar signal input.
- Readings are taken with a  $10\text{M}\Omega$  digital multimeter.
- Voltage are dc with respect to ground unless otherwise noted.
- Voltage variations may be neted due to normal production tolerances.
- All voltages are in V.
- Circled numbers are waveform references.
- : B+ bus.
- : signal path (RF).

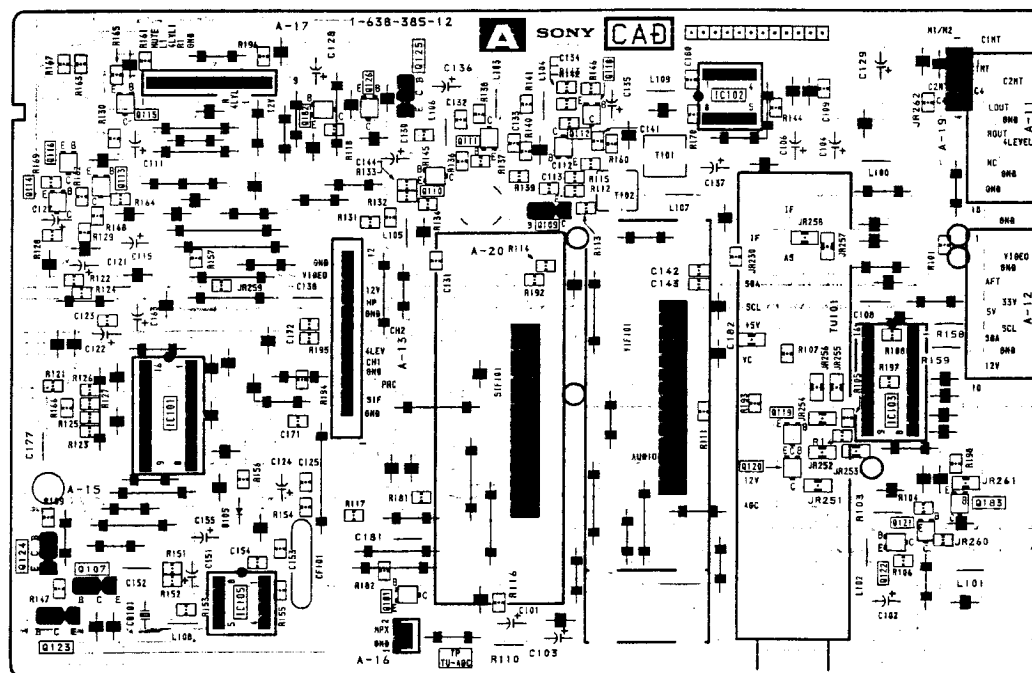


**A** [TUNER, SIF, VIF] **F** [AC IN POWER SW]

- F Board -

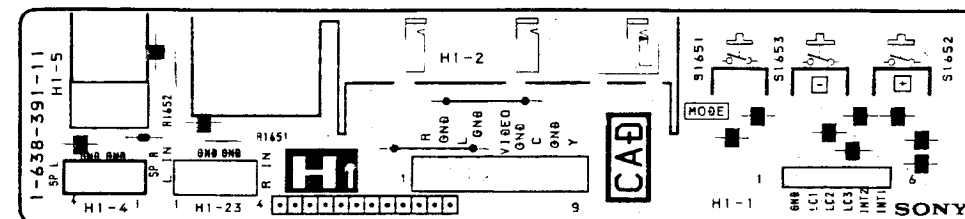


- A Board -

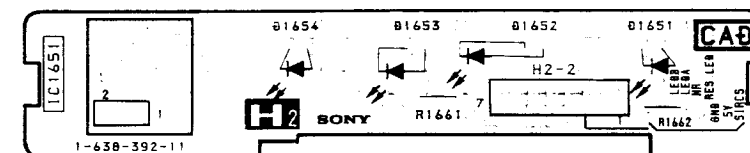


**H1** [CONTROL SW, AV INPUT, HEADPHONE] **H2** [SIRCS RECEIVER, INDICATOR]

- H1 Board -



- H2 Board -

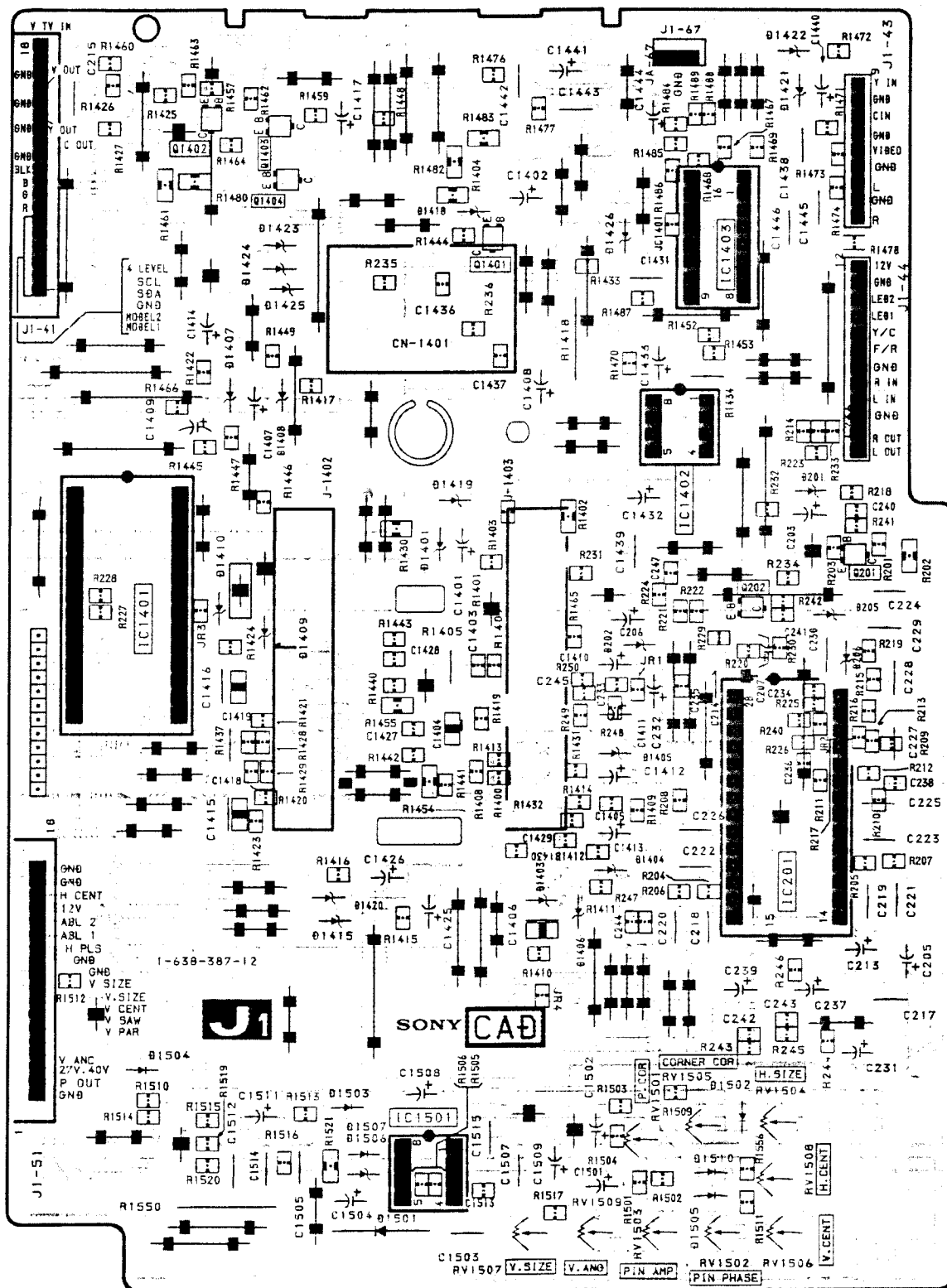




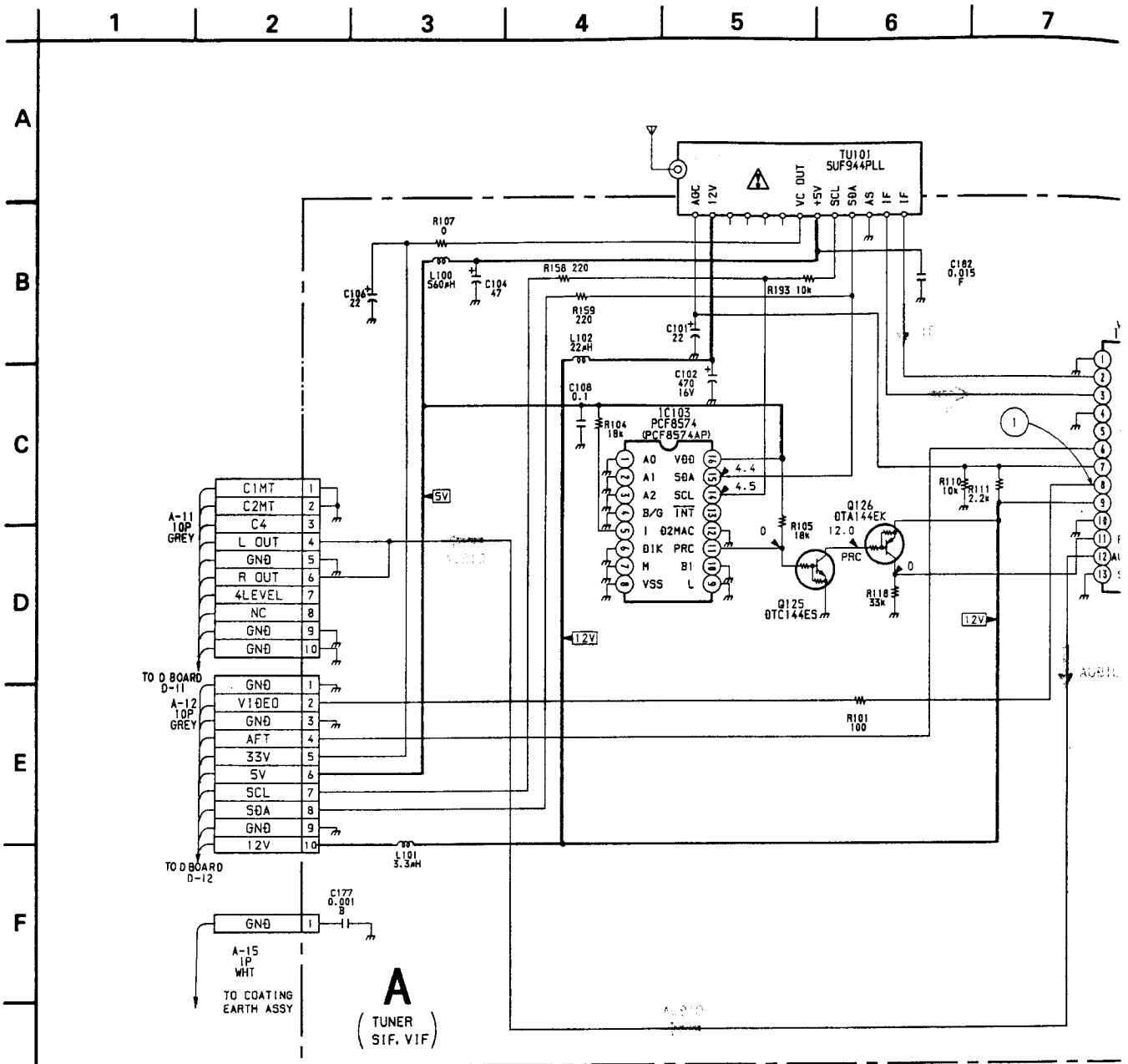
J1

AUDIO CONTROL, AV INPUT  
Y/C INPUT, SCART VIDEO OUT  
EAST-WEST CORRECTION

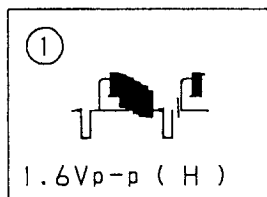
- J1 Board -





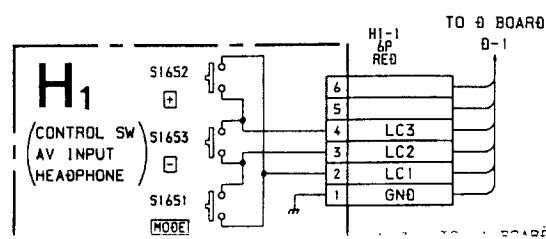


Waveform A Board

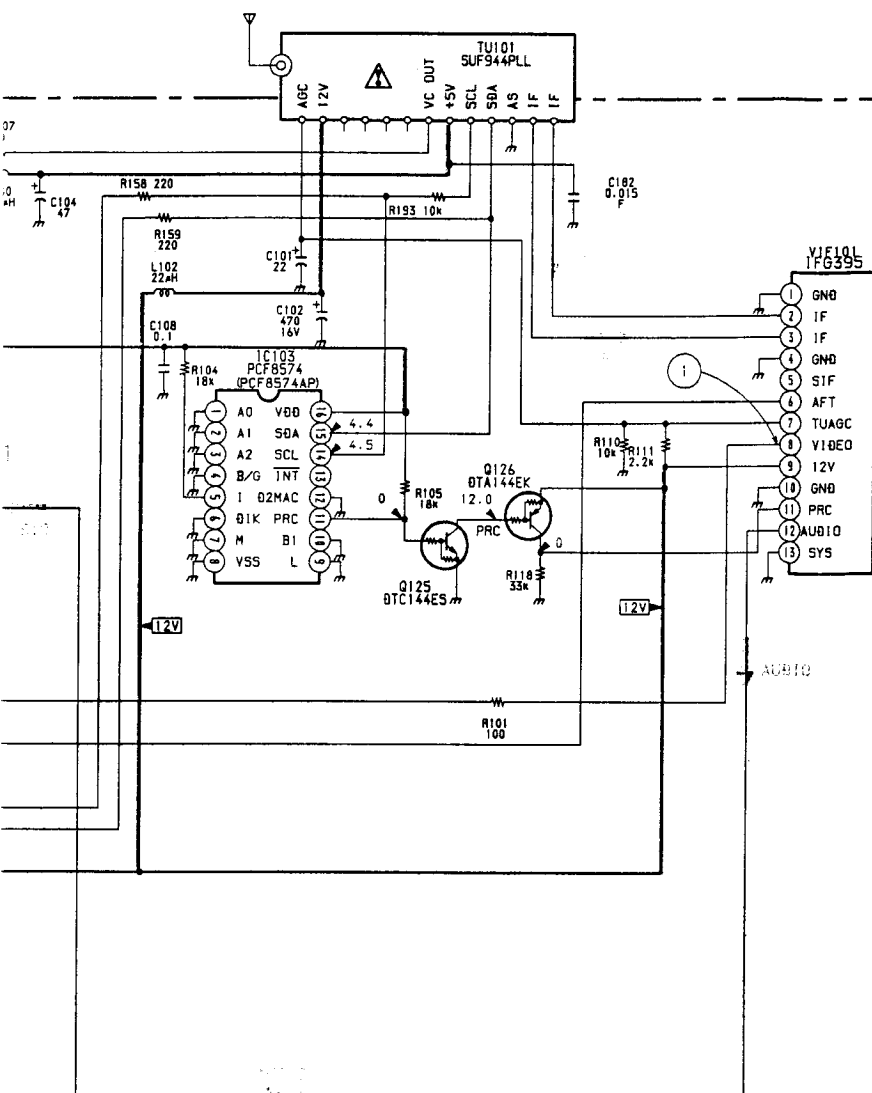


A BOARD

IC103	PCF8574	EXPANDER
Q125	DTC144ES	MUTE SW
Q126	DTA144EK	MUTE SW

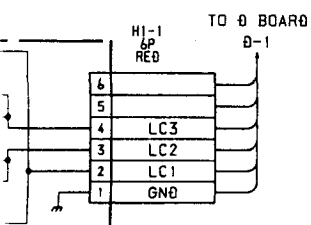
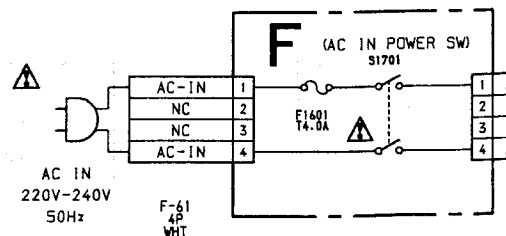






# ARD

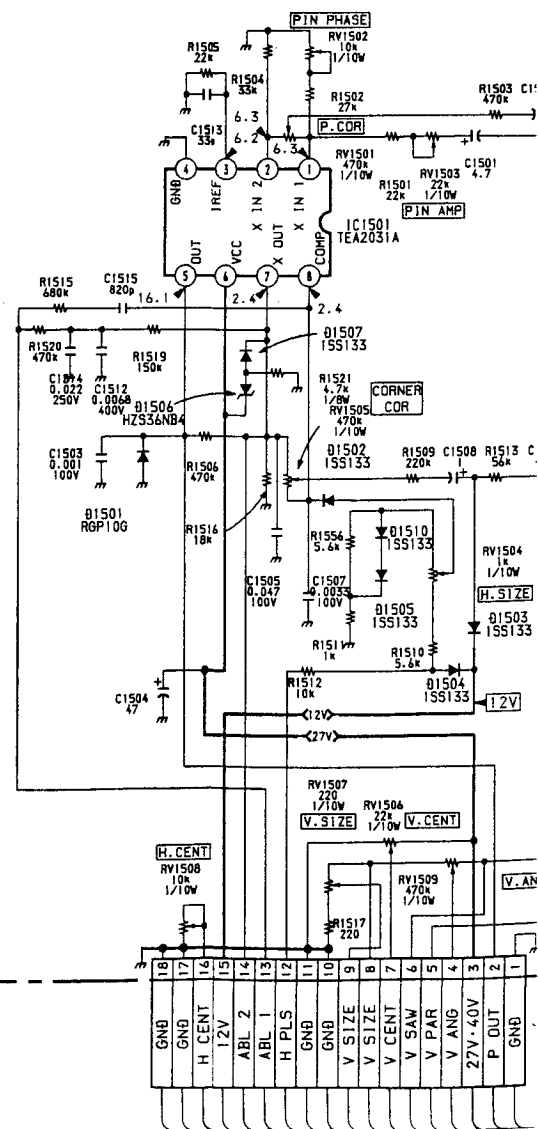
3	PCF8574	EXPANDER
5	0TC144ES	MUTE SW
6	0TA144EK	MUTE SW





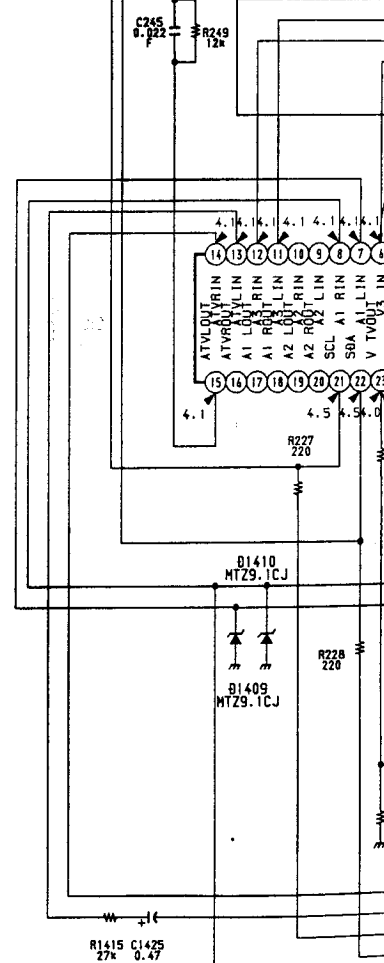
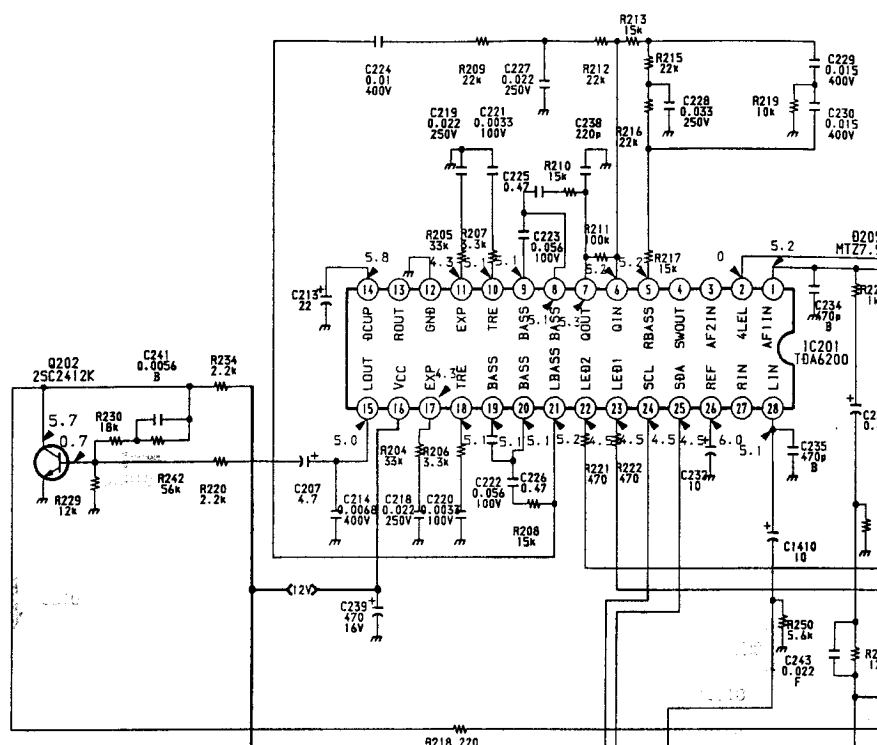
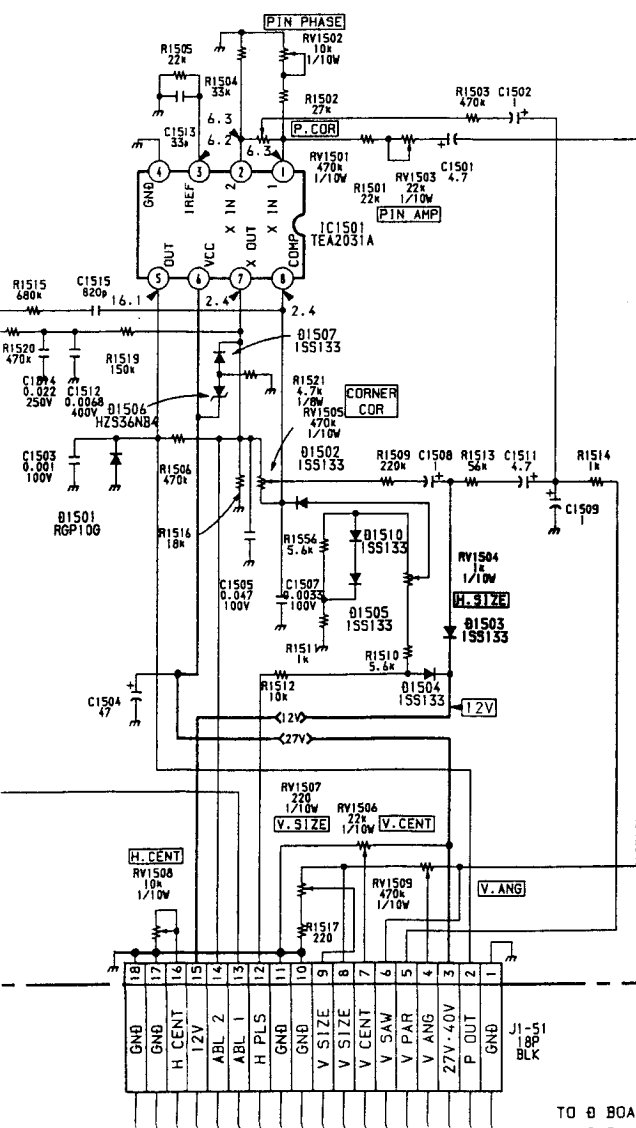


AUDIO CONTROL  
AV INPUT, Y/C INPUT,  
SCART VIDEO OUT,  
EAST-WEST CORRECTION

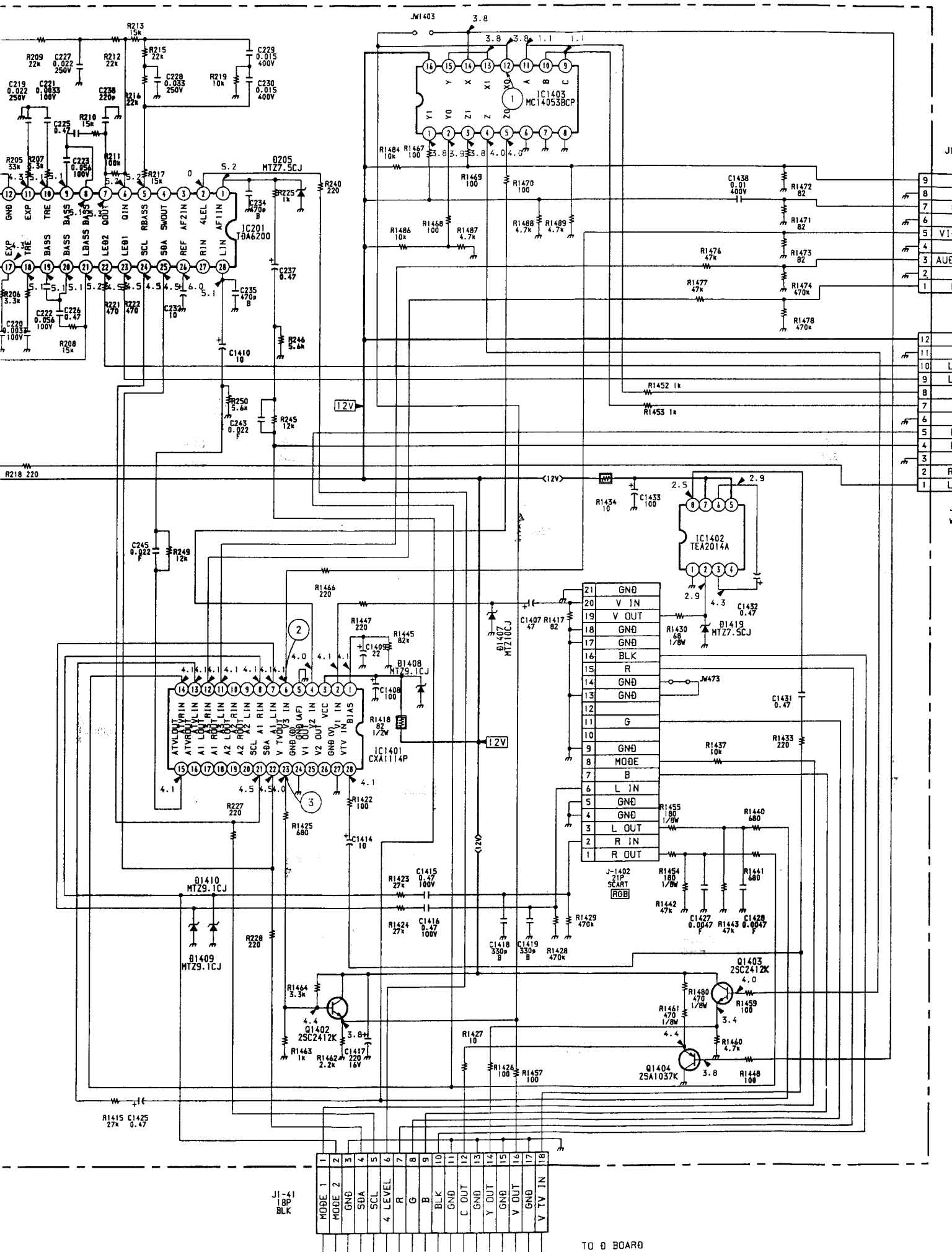




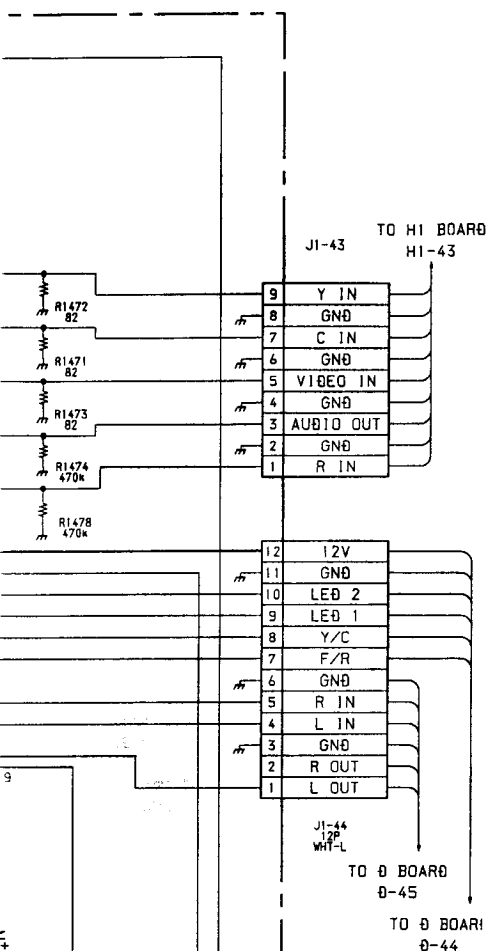
( AUDIO CONTROL  
AV INPUT, Y/C INPUT,  
SCART VIDEO OUT.  
EAST-WEST CORRECTION )







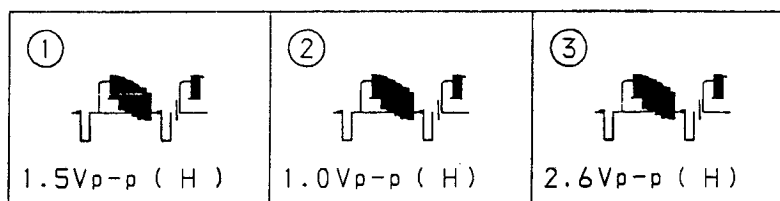




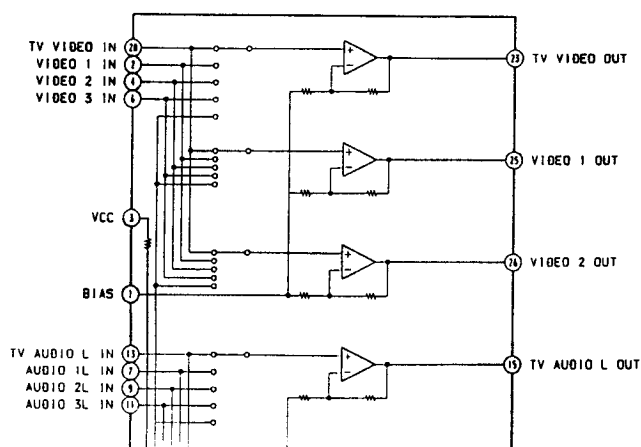
## J1 Board

IC201	TDA6200	AUDIO CONTROL
IC1401	CXA1114P	AV SW
IC1402	TEA2014A	SCART VIDEO OUT
IC1403	MC14053BCP	COMPOSITE Y/C SW
IC1501	TEA2031A	EAST-WEST CORRECTION
Q202	2SC2412K	AUDIO BUFF
Q1402	2SC2412K	VIDEO OUT BUFF
Q1403	2SC2412K	Y OUT BUFF
Q1404	2SA1037K	C OUT BUFF
Q205	MTZ7.5CJ	PROTECT
Q1407	MTZ10CJ	PROTECT
Q1408	MTZ9.1CJ	REG
Q1409	MTZ9.1CJ	PROTECT
Q1410	MTZ9.1CJ	PROTECT
Q1419	MTZ7.5CJ	PROTECT
Q1501	RGP10G	PROTECT
Q1502	1SS133	DECOUPLING H SIZE
Q1503	1SS133	CLIPPING V PARABOLA
Q1504	1SS133	CLIPPING H PULSE
Q1505	1SS133	REG
Q1506	HZS36NB	PROTECT
Q1507	1SS133	PROTECT
Q1510	1SS133	REG

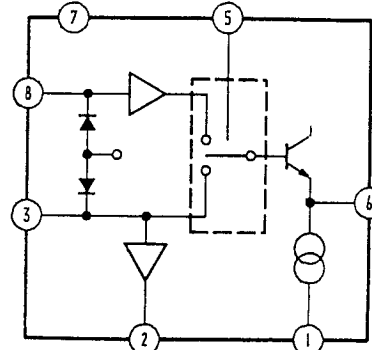
## Waveforms J1 Board



## J1 Board IC1401 CXA1114P



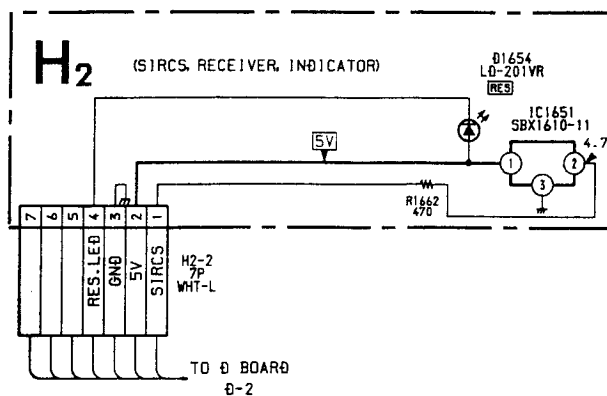
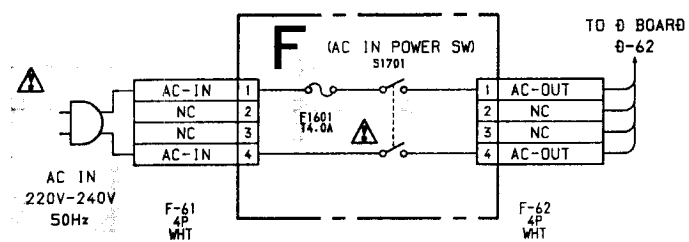
## J1 Board IC1402 TEA2014A







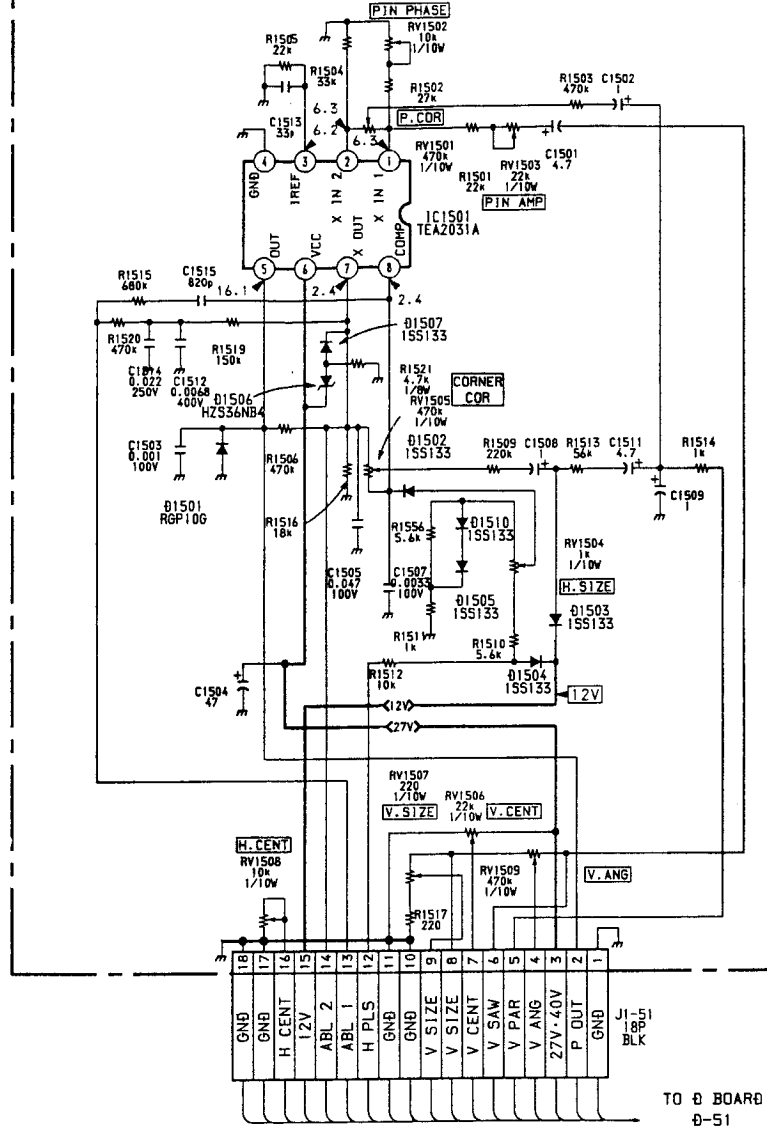
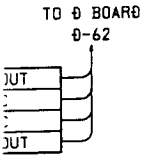




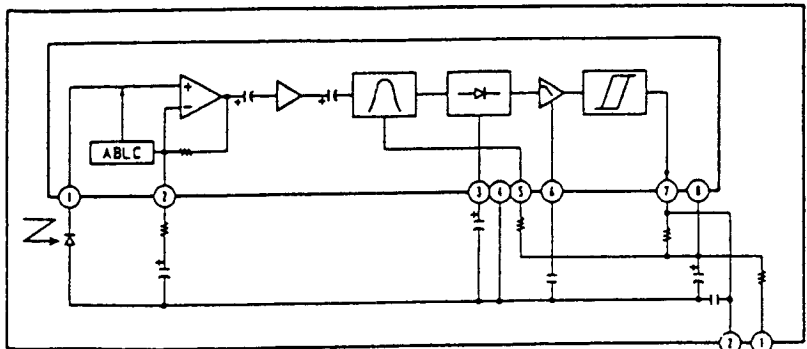
## H2 Board

IC1651	SBX1610-11	INFRARED RECEIVER
D1654	LD-201VR	STAND-BY INDICATOR

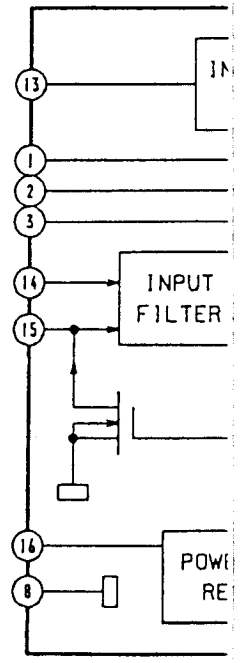




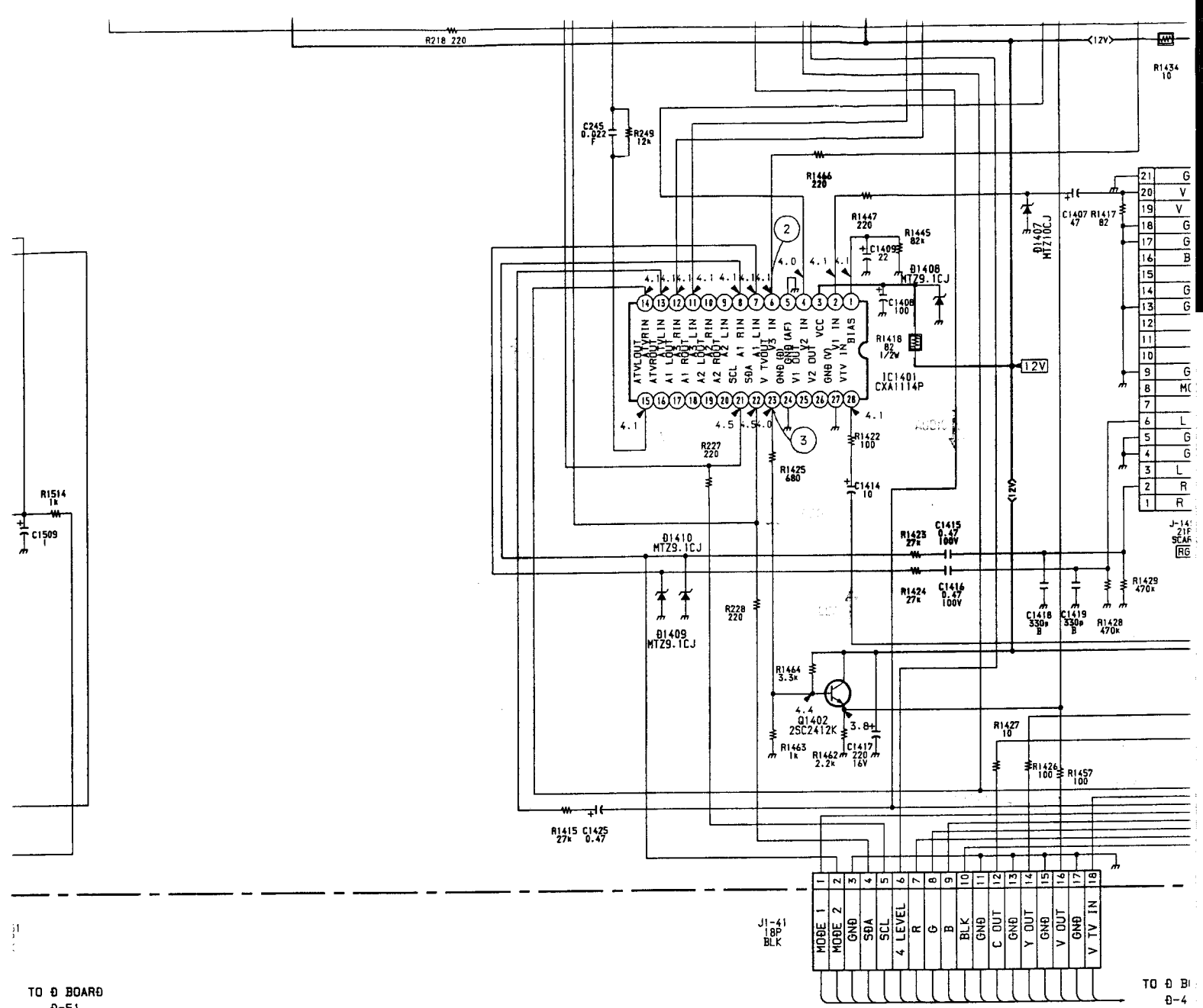
H2 Board IC1651 SBX1610-11



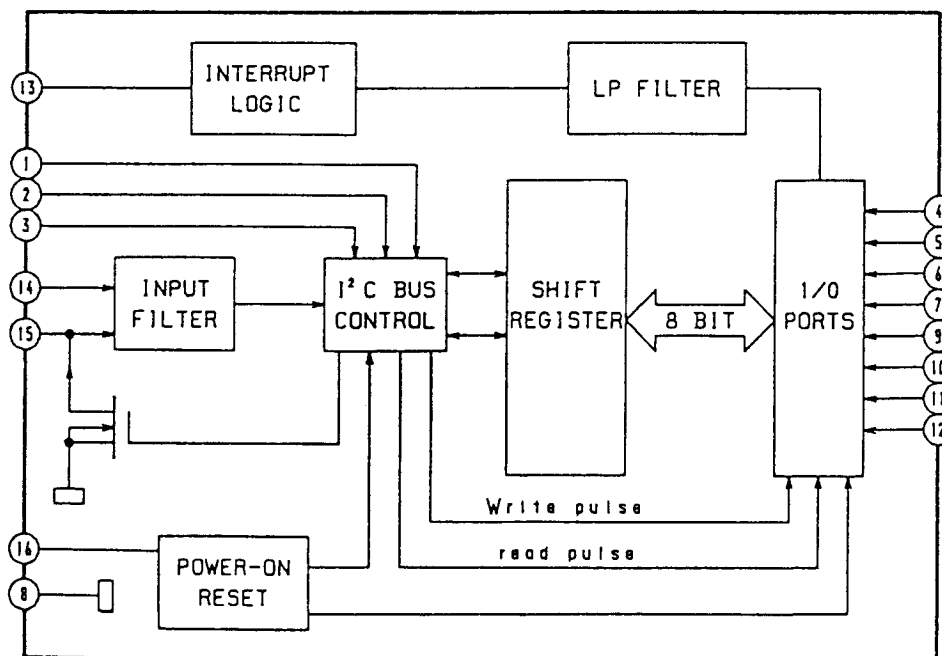
A Board IC103



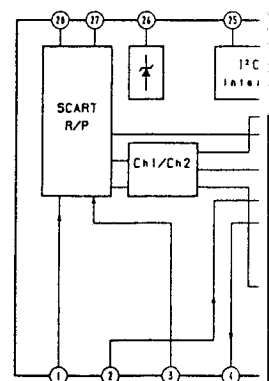




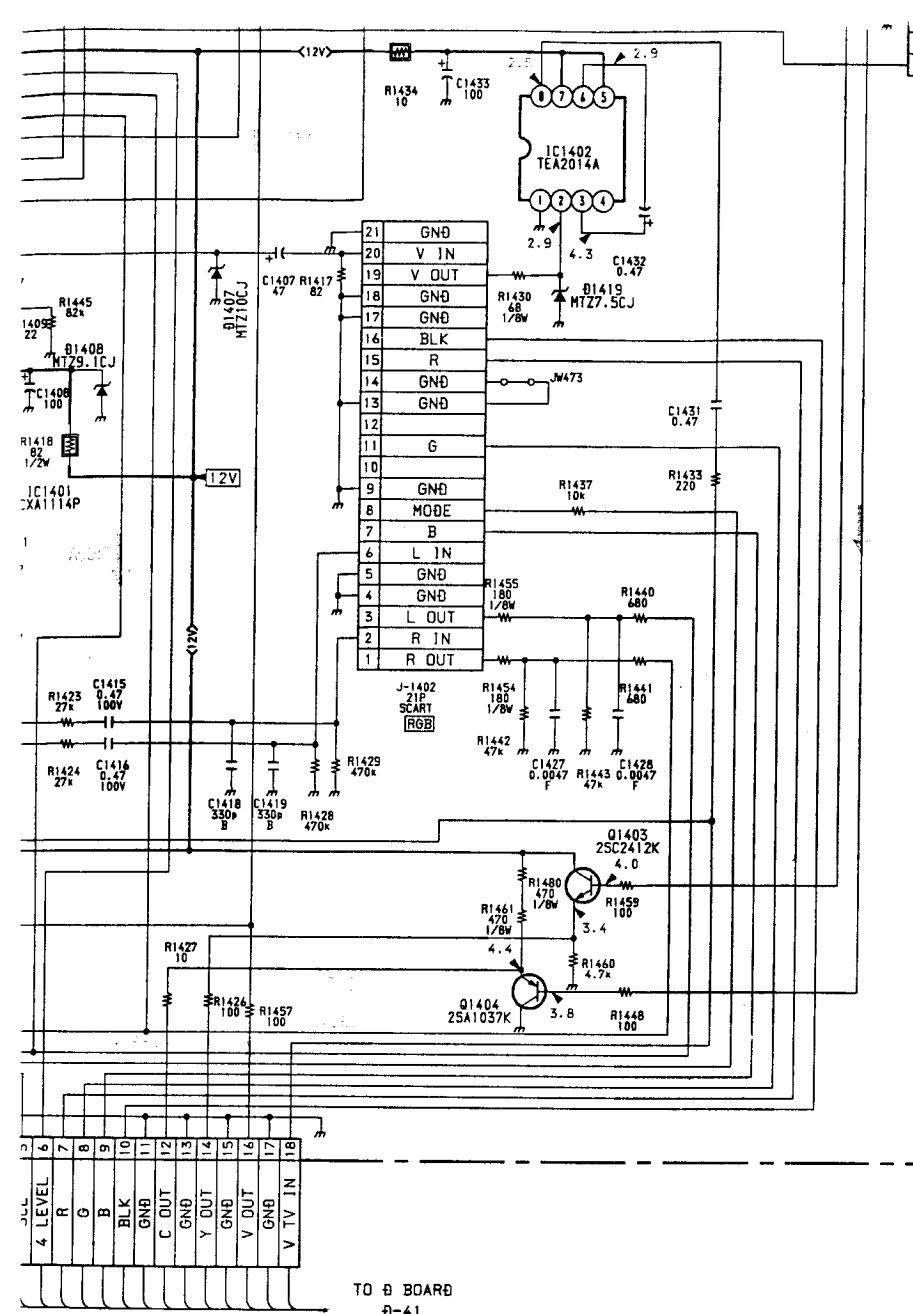
**A Board IC103 PCF8574**



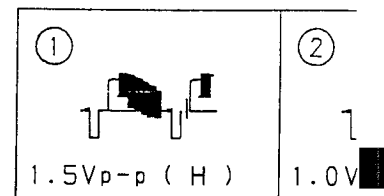
**J1 Board IC201 TD**



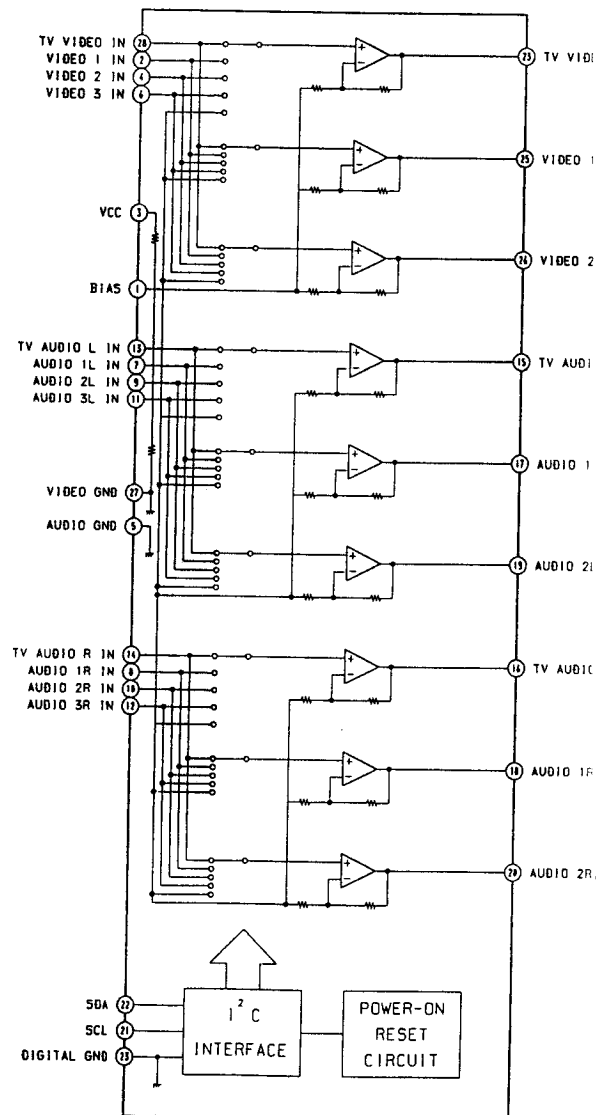




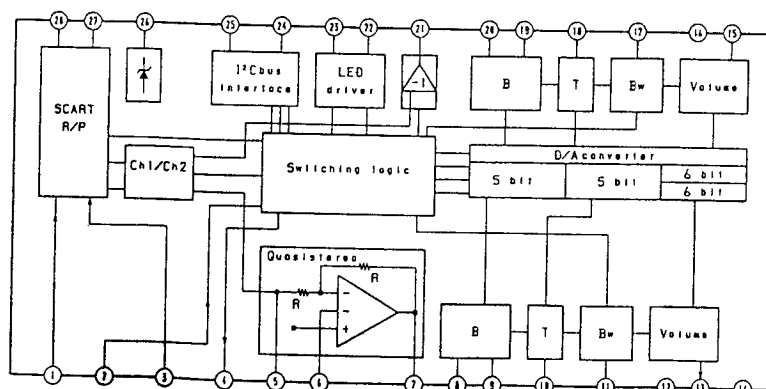
Waveforms J1 Board



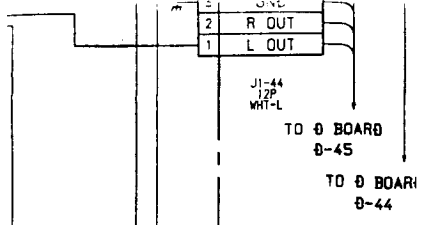
J1 Board IC1401 CXA1114P



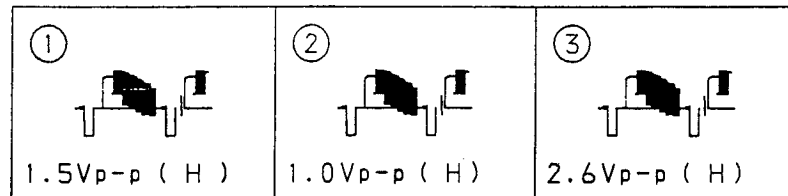
J1 Board IC201 TDA6200



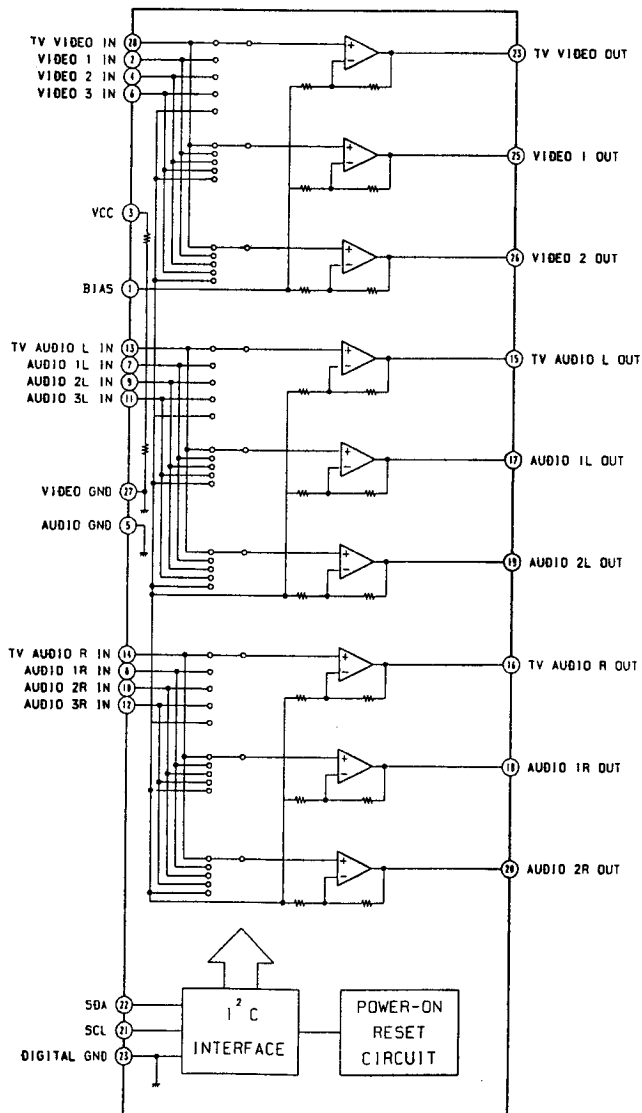




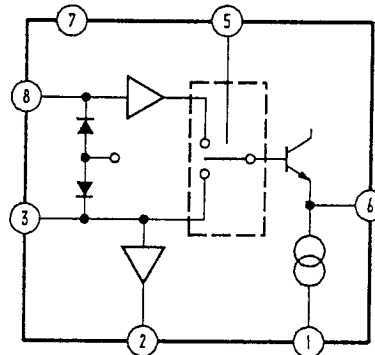
Waveforms J1 Board



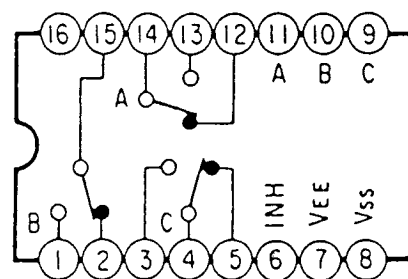
J1 Board IC1401 CXA1114P



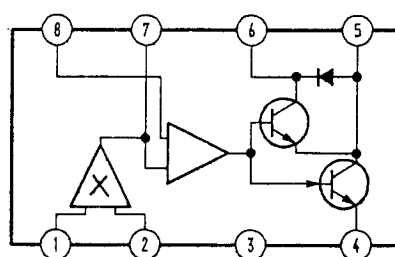
J1 Board IC1402 TEA2014A



J1 Board IC1403 MC1405BCP

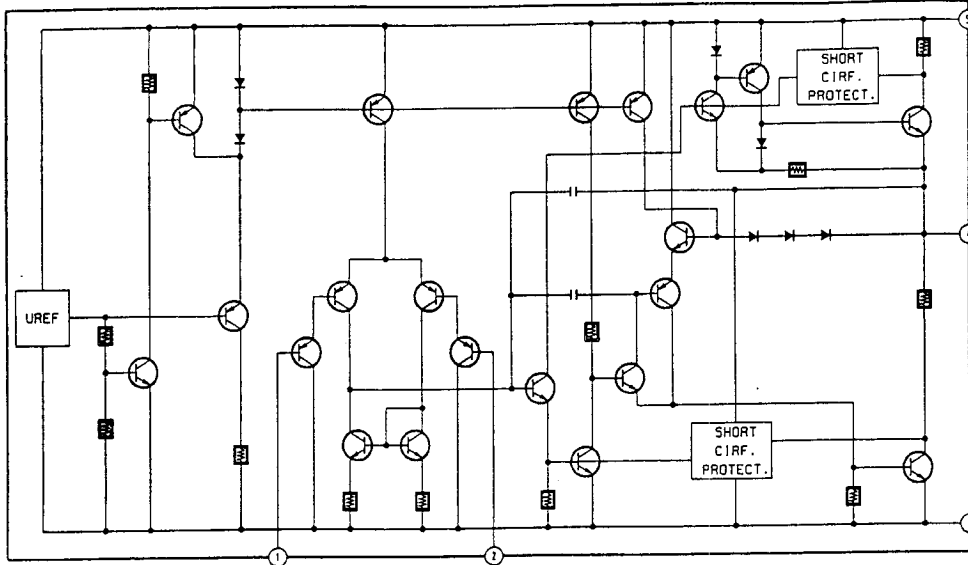


J1 Board IC1501 TEA2031A

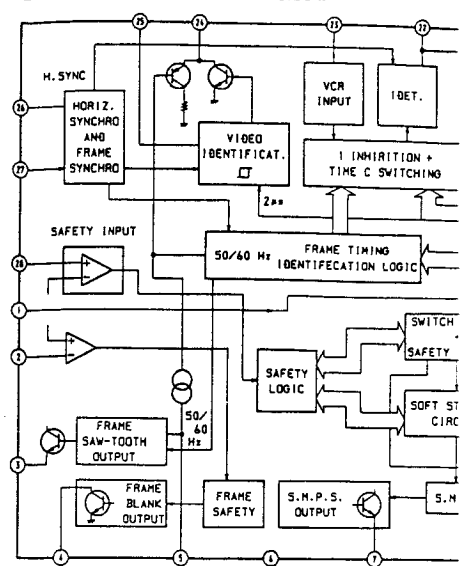




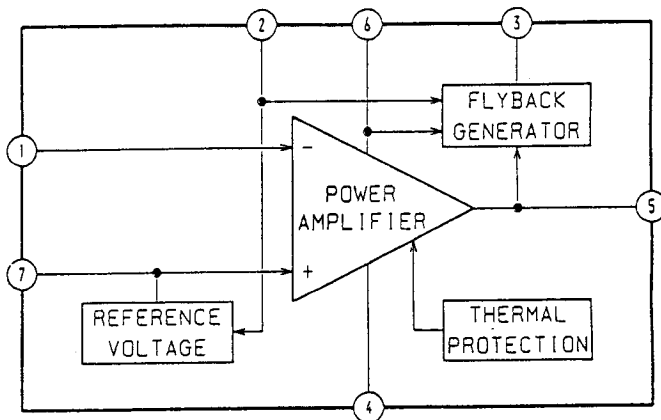
D Board IC251 TDA2050



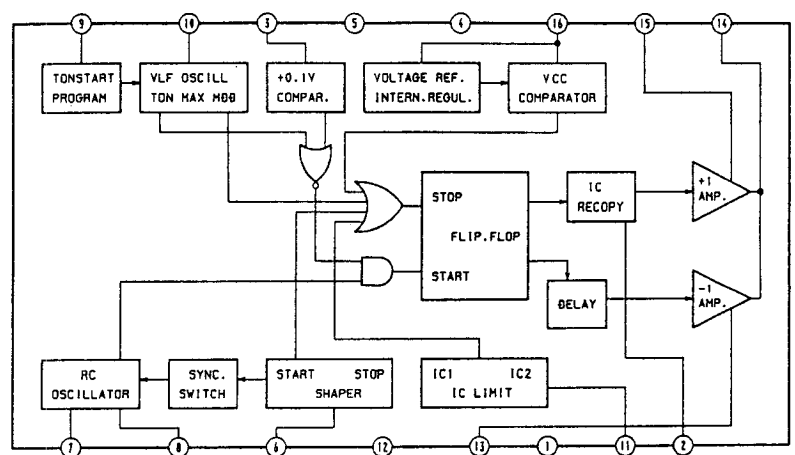
D Board IC501 TEA2028B



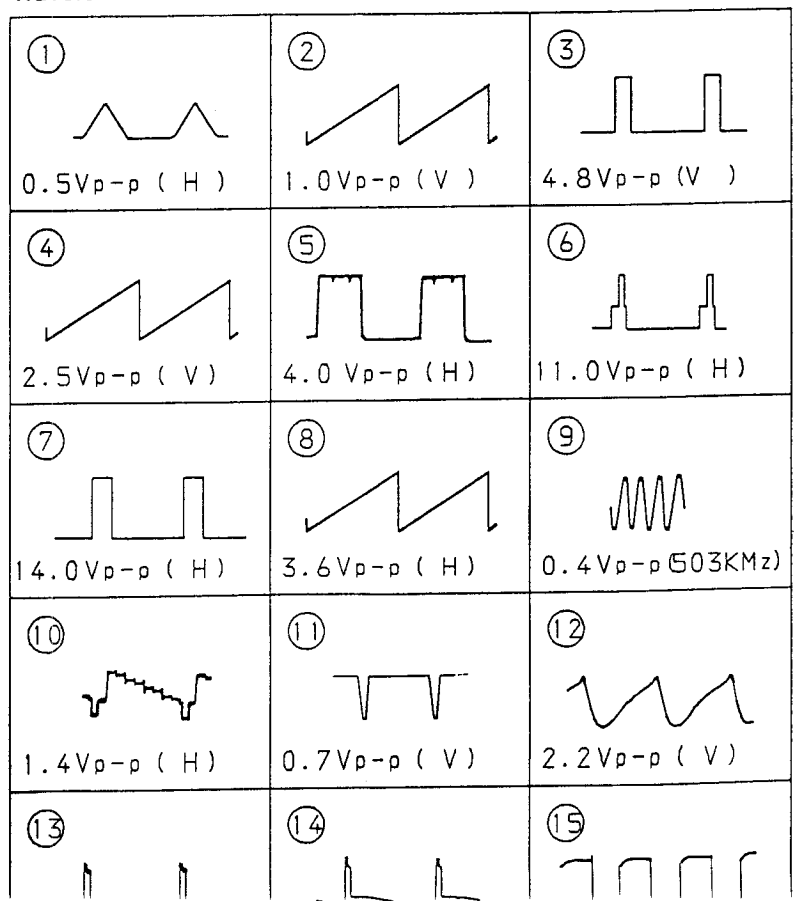
D Board IC502 TDA8170



D Board IC601 TEA2260

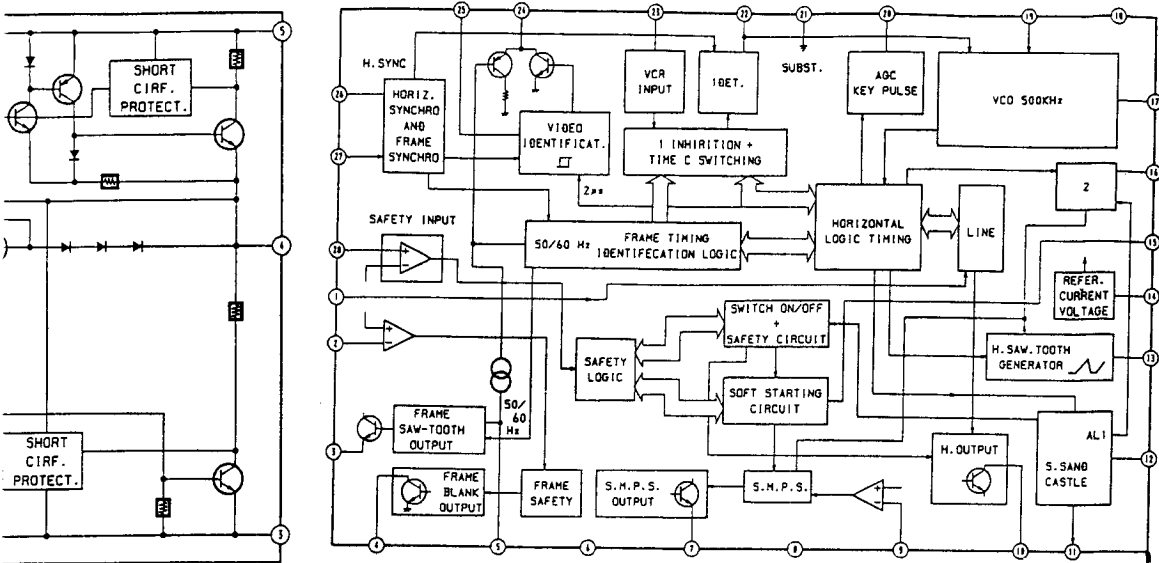


Waveforms D Board

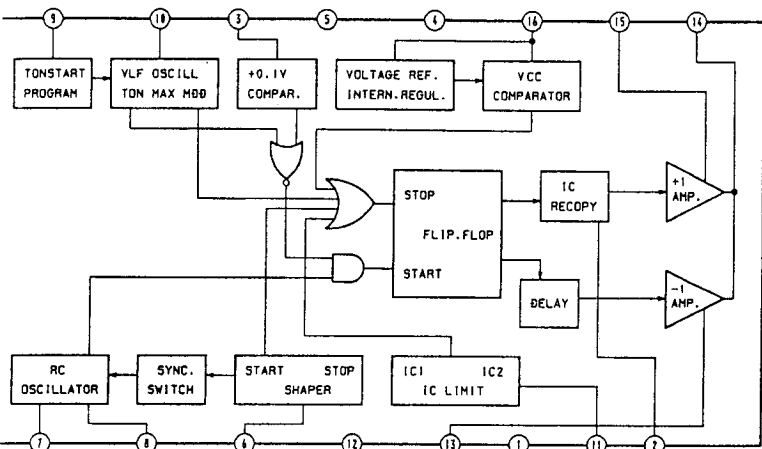




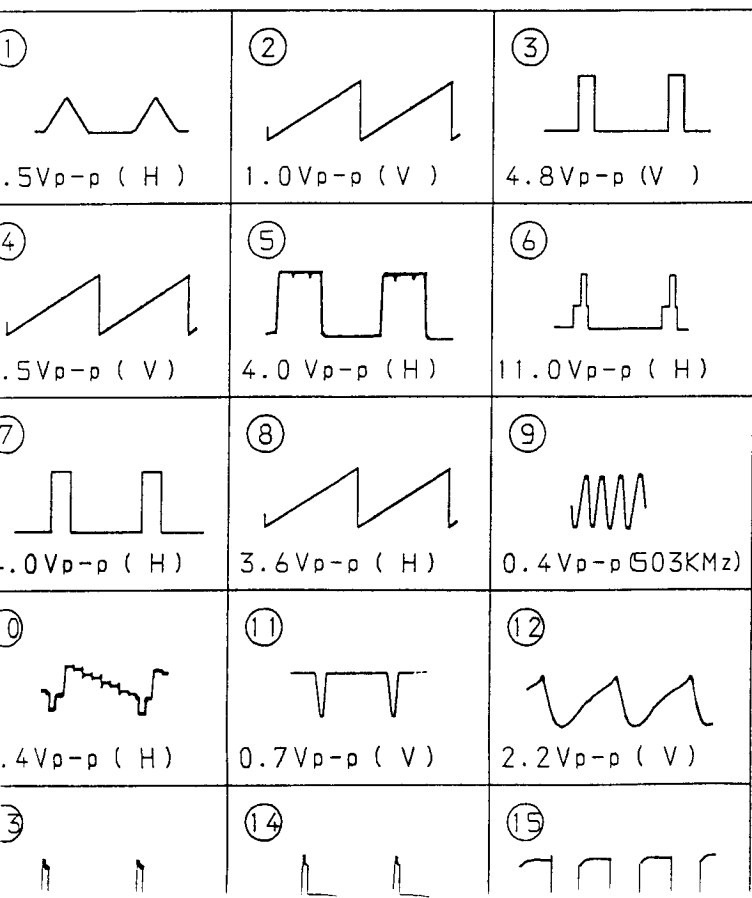
# D Board IC501 TEA2028B



## D Board IC601 TEA2260



## Waveforms D Board



## D Board

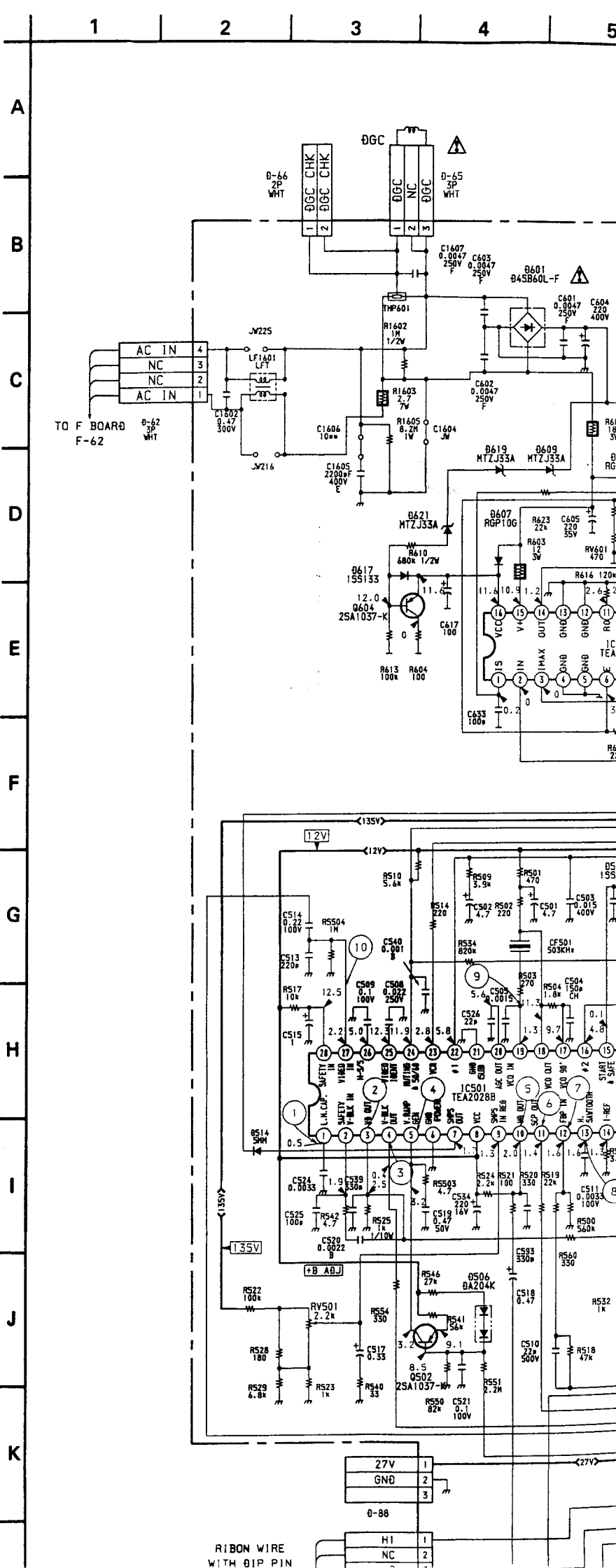
IC001	SDA20560-AE10	TUNING CTL
IC002	MC14051BCP	ON SCREEN DISPLAY
IC003	BA4558	AFT COMPARATORE
IC005	SBA2546	MY MEMORY
IC251	TQA2050	AUDIO OUT
IC501	TEA2028B	DEFLECTION PROCESSOR
IC502	TQA8170	V OUT
IC601	TEA2260	PRIMARY SMRS CTL
IC604	TEA7605	+5V REG
IC608	TYA7812CT	+12V REG
Q001	0TC144EK	50/60HZ SW
Q002	0TA144EK	BLK SW
Q003	2SA1037-K	SYNC SEPARATOR
Q004	2SA1037-K	SYNC SEPARATOR
Q005	0TC144EK	Y/C SW
Q006	0TC144EK	FRONT/REAR SW
Q007	2SC2412-K	MODE 2 SWITCH
Q008	2SC2412-K	MODE 1 SWITCH
Q009	2SC2412-K	MUTE SW
Q010	2SC2412-K	RESET
Q251	2SC2412-K	AUDIO MUTO
Q271	2SC2412-K	VOLTAGE DETECT
Q502	2SA1037-K	CONSTANT CUR
Q505	2SD774-4	V CENT
Q506	2SB734-3	V CENT
Q507	2SA1037-K	CANAL +BLK
Q598	2SA1037-K	VIDEO AMP
Q601	2SB1357T114EF	STBY SW
Q602	2SD1548-LB	REG OUT
Q603	2SB1357T114EF	STBY SW
Q604	2SA1037-K	FAST ON/OFF
Q605	2SC2412-K	STBY SW
Q606	2SC2412-K	STBY SW
Q607	2SD2096	+12V REG
Q608	2SC2412-K	STBY SW
Q609	2SD789-3	STBY SW
Q801	2SC2412-K	ABL AMP
Q804	2SD1941-06	H OUT
Q805	2SC2688-L	H DRIVER
0003	1SS133	HUE CTL
0005	MTZJ5.6B	PROT
0006	MTZJ33A	VC VOLTAGE REGULATION
0007	MTZ3.9B	PROT REACT
0009	MTZJ5.6B	CLIPPING SYNC LEVEL
0010	MTZJ6.2B	PROT
0011	MTZJ6.2B	PROT
0012	1SS133	PROT
0013	MTZJ6.8C	PROT
0271	MTZJ13B	VOLTAGE DETECT
0272	1SS133	DECOUPLING MUTE AUDIO
0501	1SS133	START
0504	GP080	V PULSE OUT
0506	0A204K	CURRENT
0508	1SS133	CANAL +BLK LEVEL
0509	1SS133	V LIN
0511	GP080	PROT
0512	GP080	PROT
0513	MTZJ4.7B	PROT
0601	04SB60L-F	AC RECT



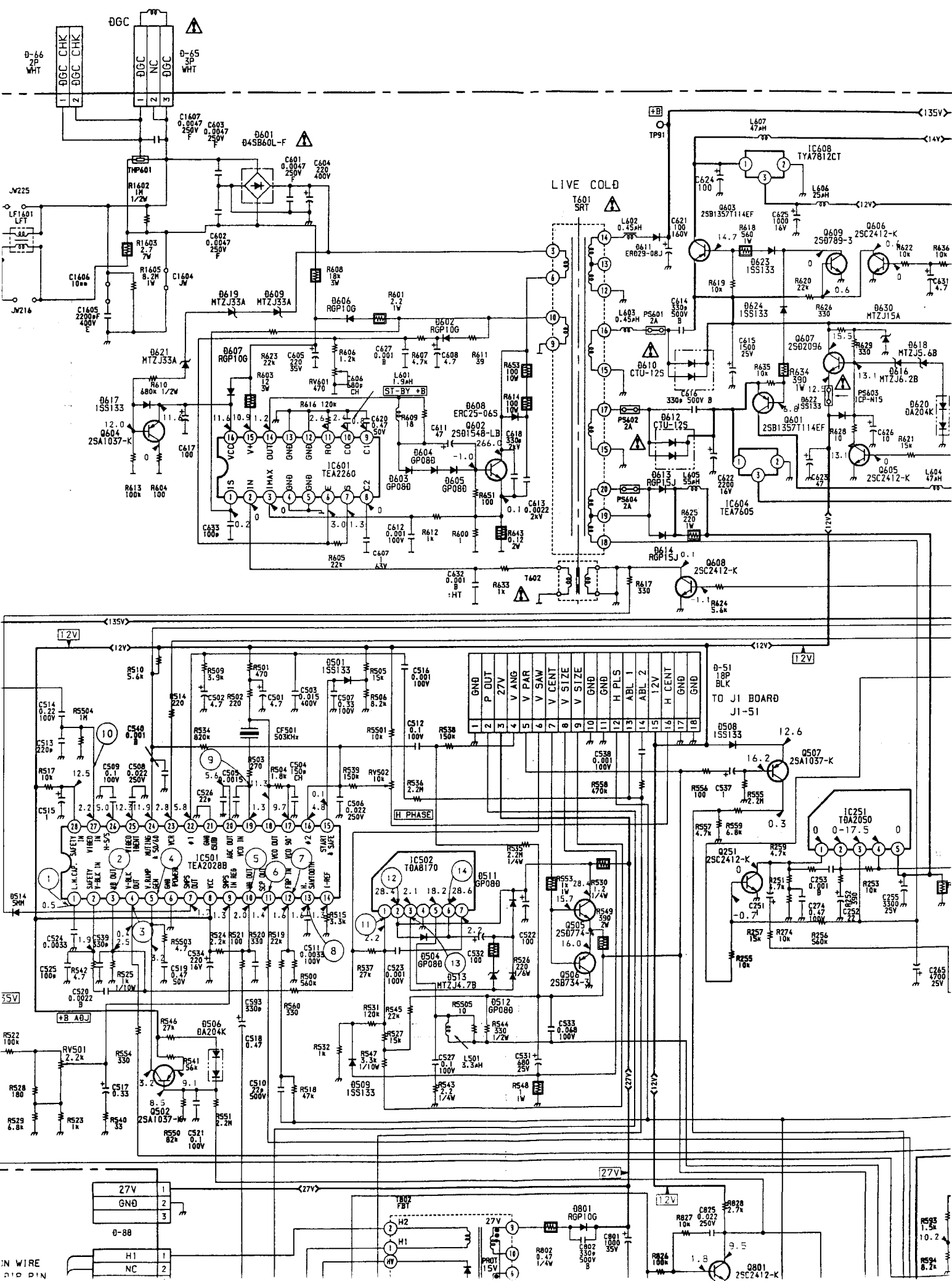
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HUE CTL
PROT
VC VOLTAGE REGULATION
PROT REACT
CLIPPING SYNC LEVEL
PROT
PROT
PROT
PROT
VOLTAGE DETECT
DECOUPLING MUTE AUDIO
START
V PULSE OUT
CURRENT
CANAL +BLK LEVEL
V LIN
PROT
PROT
PROT
AC RECT

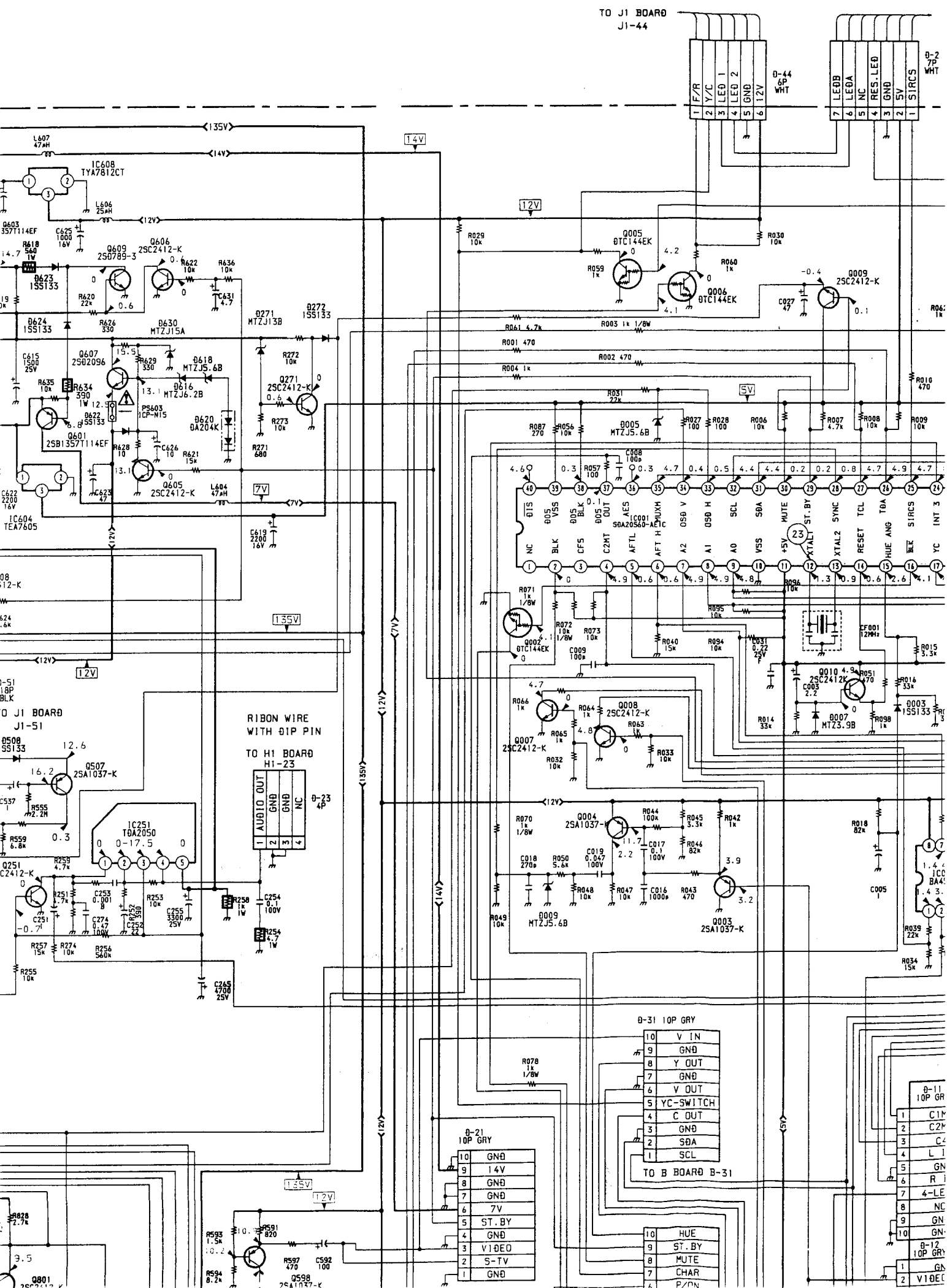
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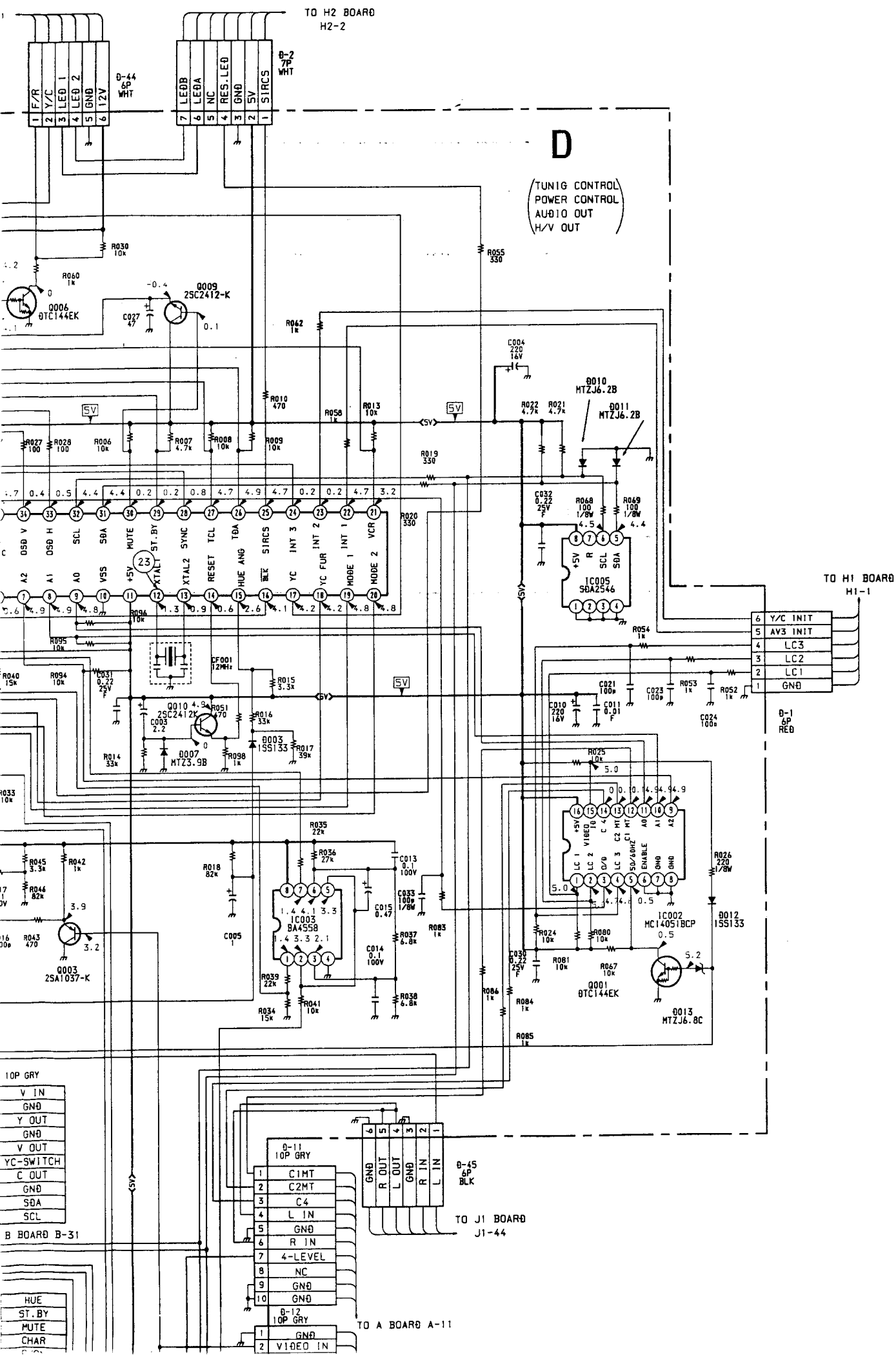




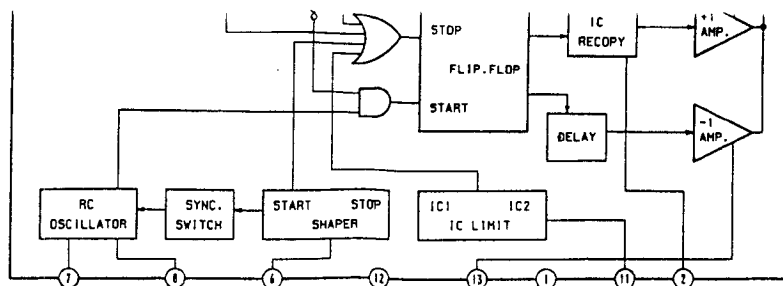






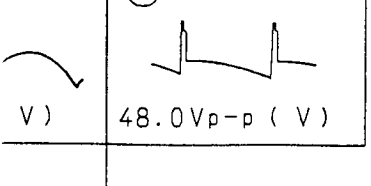
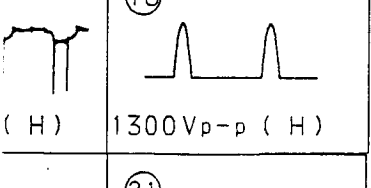
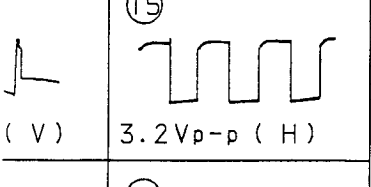
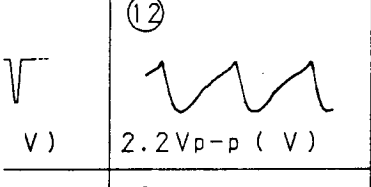
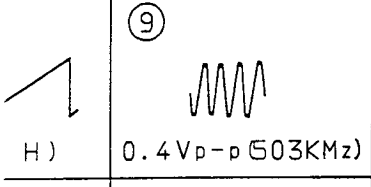
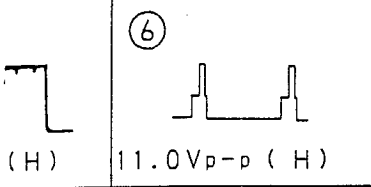
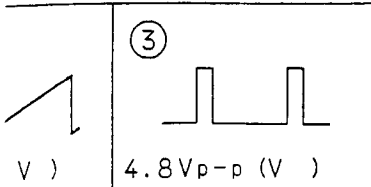
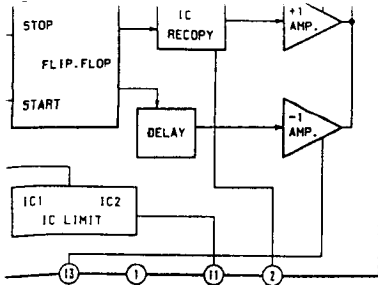






<p>①</p> <p>0.5Vp-p ( H )</p>	<p>②</p> <p>1.0Vp-p ( V )</p>	<p>③</p> <p>4.8Vp-p ( V )</p>
<p>④</p> <p>2.5Vp-p ( V )</p>	<p>⑤</p> <p>4.0 Vp-p ( H )</p>	<p>⑥</p> <p>11.0Vp-p ( H )</p>
<p>⑦</p> <p>14.0Vp-p ( H )</p>	<p>⑧</p> <p>3.6Vp-p ( H )</p>	<p>⑨</p> <p>0.4Vp-p (503KHz)</p>
<p>⑩</p> <p>1.4Vp-p ( H )</p>	<p>⑪</p> <p>0.7Vp-p ( V )</p>	<p>⑫</p> <p>2.2Vp-p ( V )</p>
<p>⑬</p> <p>29.0Vp-p ( V )</p>	<p>⑭</p> <p>29.0Vp-p ( V )</p>	<p>⑮</p> <p>3.2Vp-p ( H )</p>
<p>⑯</p> <p>250Vp-p ( H )</p>	<p>⑰</p> <p>12.0Vp-p ( H )</p>	<p>⑱</p> <p>1300Vp-p ( H )</p>
<p>⑲</p> <p>240Vp-p ( H )</p>	<p>⑳</p> <p>7.0Vp-p ( V )</p>	<p>㉑</p> <p>48.0Vp-p ( V )</p>
<p>㉒</p> <p>1.4Vp-p ( H )</p>	<p>㉓</p> <p>0.6 Vp-p (12MHz)</p>	





12MHz)

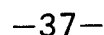
IC608	TYA7812CT	+12V REG
Q001	0TC144EK	50/60HZ SW
Q002	0TA144EK	BLK SW
Q003	2SA1037-K	SYNC SEPARATOR
Q004	2SA1037-K	SYNC SEPARATOR
Q005	0TC144EK	Y/C SW
Q006	0TC144EK	FRONT/REAR SW
Q007	2SC2412-K	MODE 2 SWITCH
Q008	2SC2412-K	MODE 1 SWITCH
Q009	2SC2412-K	MUTE SW
Q010	2SC2412-K	RESET
Q251	2SC2412-K	AUDIO MUTO
Q271	2SC2412-K	VOLTAGE DETECT
Q502	2SA1037-K	CONSTANT CUR
Q505	2SD774-4	V CENT
Q506	2SB734-3	V CENT
Q507	2SA1037-K	CANAL +BLK
Q598	2SA1037-K	VIDEO AMP
Q601	2SB1357T114EF	STBY SW
Q602	2SD1548-LB	REG OUT
Q603	2SB1357T114EF	STBY SW
Q604	2SA1037-K	FAST ON/OFF
Q605	2SC2412-K	STBY SW
Q606	2SC2412-K	STBY SW
Q607	2SD2096	+12V REG
Q608	2SC2412-K	STBY SW
Q609	2SD789-3	STBY SW
Q801	2SC2412-K	ABL AMP
Q804	2SD1941-06	H OUT
Q805	2SC2688-L	H DRIVER
0003	1SS133	HUE CTL
0005	MTZJ5.6B	PROT
0006	MTZJ33A	VC VOLTAGE REGULATION
0007	MTZ3.9B	PROT REACT
0009	MTZJ5.6B	CLIPPING SYNC LEVEL
0010	MTZJ6.2B	PROT
0011	MTZJ6.2B	PROT
0012	1SS133	PROT
0013	MTZJ6.8C	PROT
0271	MTZJ13B	VOLTAGE DETECT
0272	1SS133	DECOUPLING MUTE AUDIO
0501	1SS133	START
0504	GP080	V PULSE OUT
0506	0A204K	CURRENT
0508	1SS133	CANAL +BLK LEVEL
0509	1SS133	V LIN
0511	GP080	PROT
0512	GP080	PROT
0513	MTZJ4.7B	PROT
0601	04SB60L-F	AC RECT
0602	RGP10G	REF RECT
0603	GP080	SMPS DRIVE 1
0604	GP080	SMPS DRIVE 2
0605	GP080	SMPS DRIVE 3
0606	RGP10G	+12V RECT
0607	RGP10G	REF RECT
0608	ERC25-06S	PULSE CLIPPER
0609	MTZJ33A	FAST ON/OFF
0610	CTU-12S	+14V RECT
0611	ER029-08J	+135V RECT
0612	CTU-12S	+7V RECT
0613	RGP15J	AF V RECT-1
0614	RGP15J	AF V RECT-2
0616	MTZJ6.2B	+12V REG
0617	1SS133	PROT
0618	MTZJ5.6B	+12V REF
0619	MTZJ33A	FAST ON/OFF-2
0620	0A204K	+12V REF
0621	MTZJ33A	FAST ON/OFF-3
0622	1SS133	PROT
0623	1SS133	DECOUPLING STBY
0624	1SS133	DECOUPLING STBY
0630	MTZJ15A	+12V REF
0801	RGP10G	+27 REF
0802	RGP10G	+200 REF
0803	RGP02-17	G2 REF
0804	GP080	H CENTER-1
0805	GP080	H CENTER-2
0806	ERC06-15S	H DAMPER-1
0807	ERC06-15S	H DAMPER-2
0808	ER029-08J	PIN DAMPER

F  
G  
H  
I  
J  
K  
L  
M  
N  
O  
P

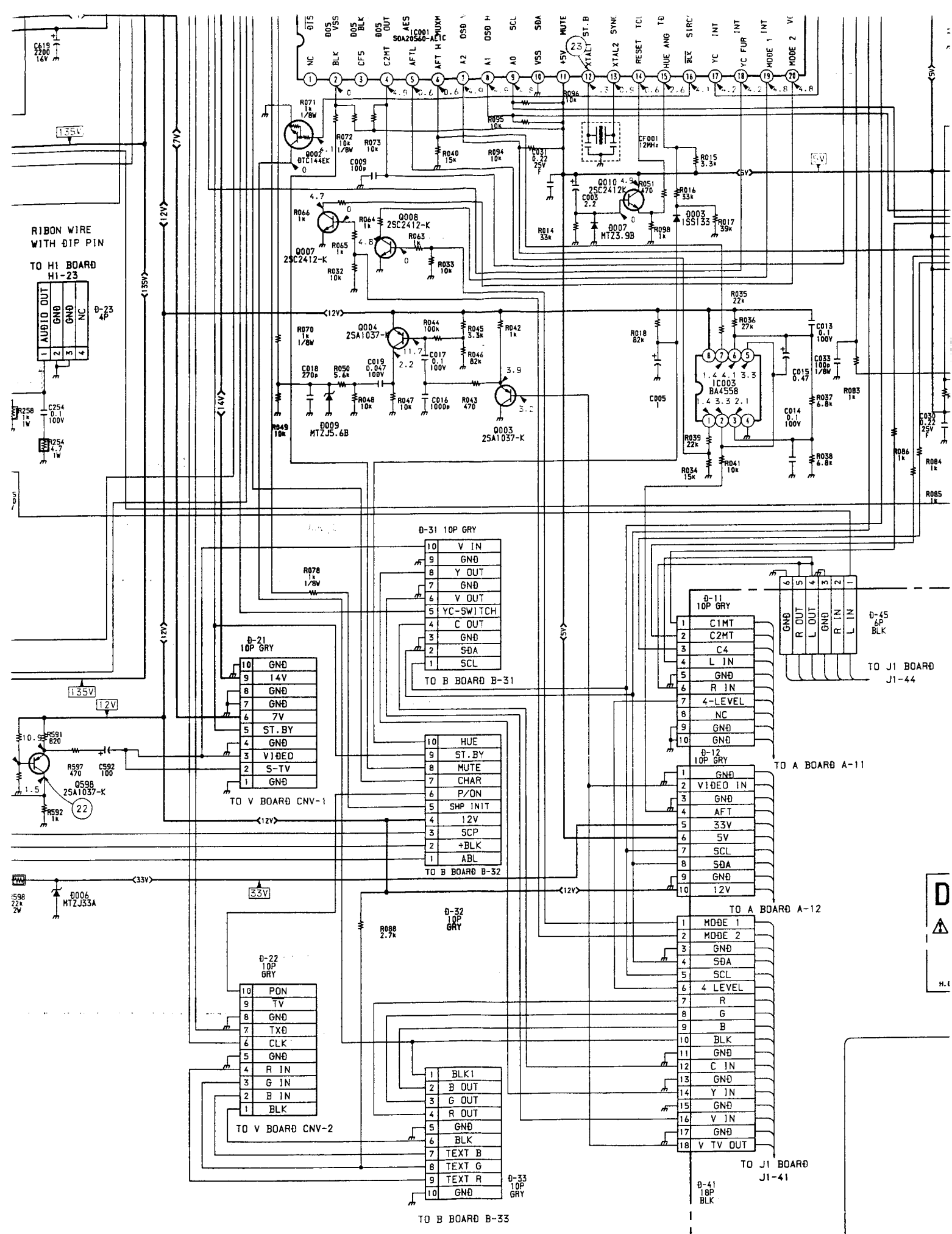




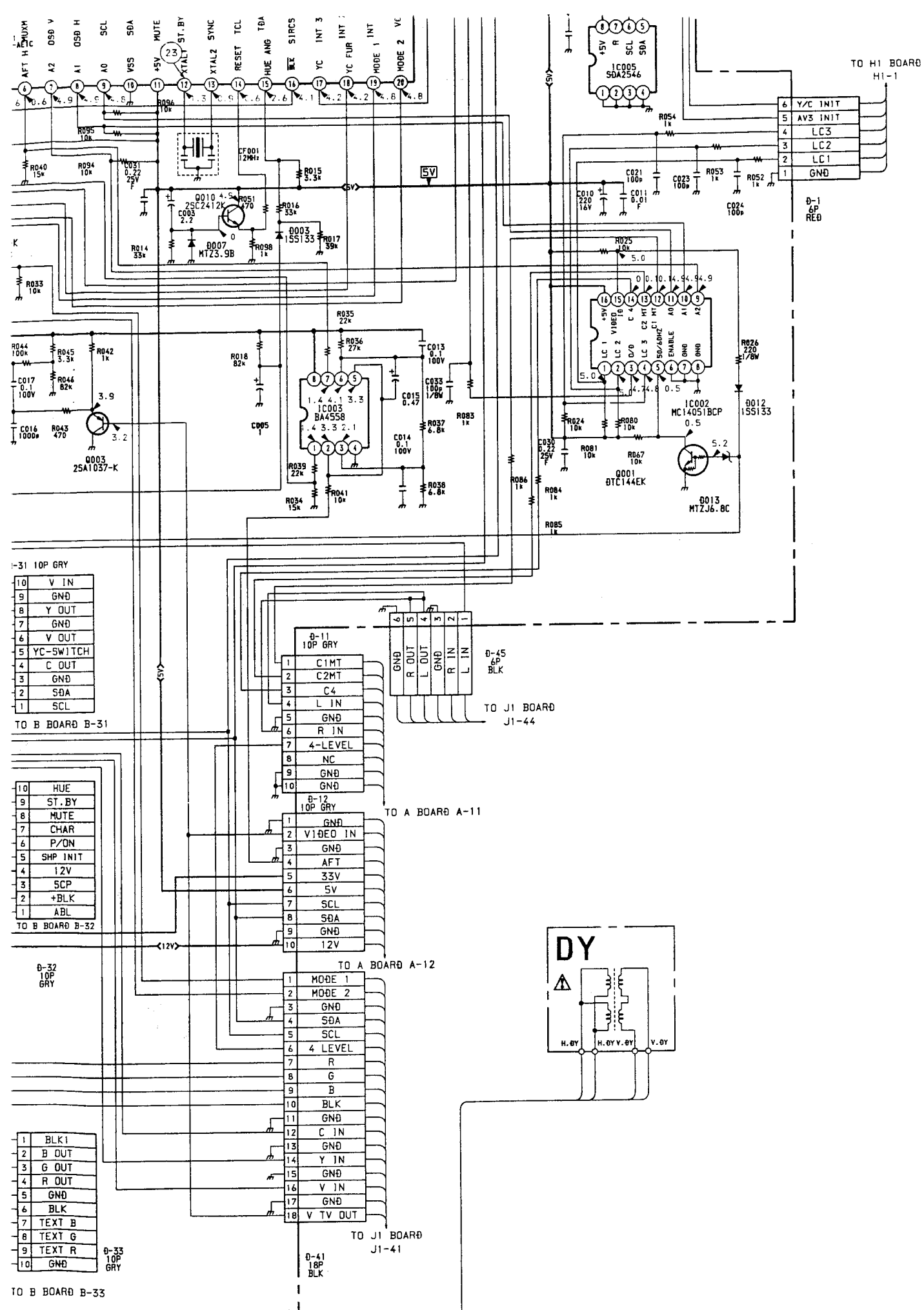










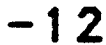




1-637-020-12



TUNING CONTROL,  
POWER CONTROL,  
AUDIO OUT, H/V OUT

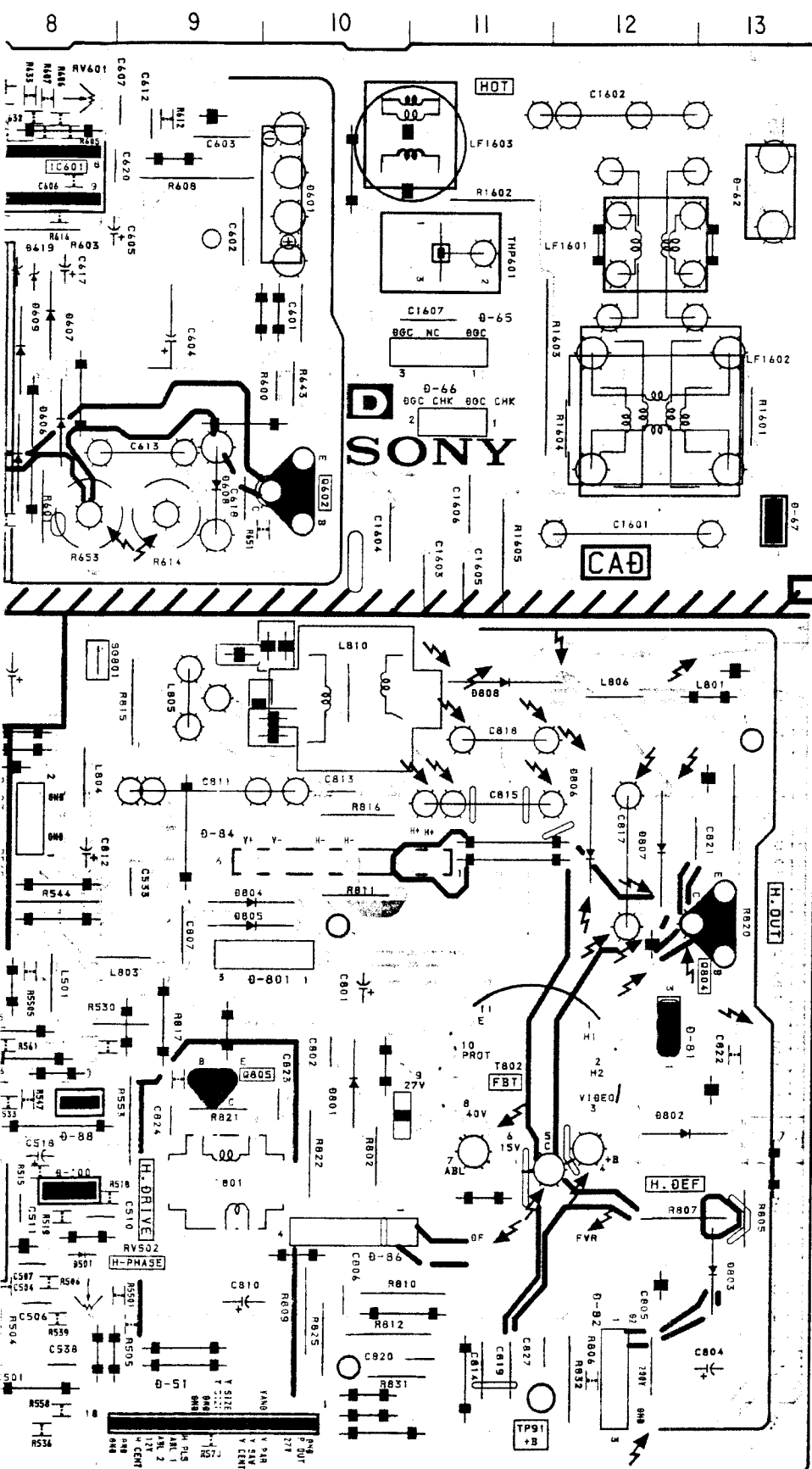




L  
L  
OUT

## NOTE:

The circuit indicated as left contains high voltage of over 600 Vp-p. Care must be paid to prevent an electric shock in inspection or repairing.



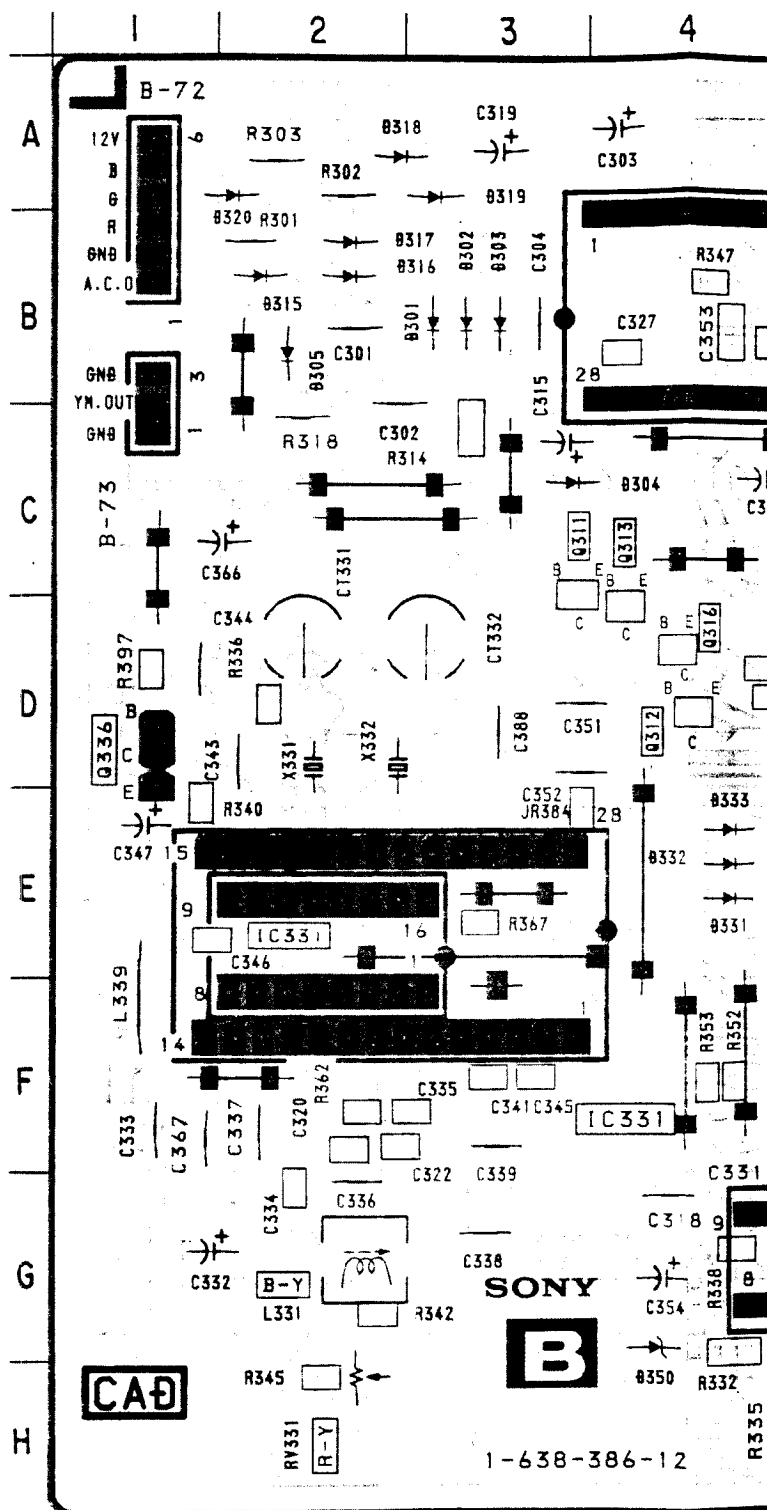
IC		D013	E-2
IC001	B-2	D271	C-6
IC002	E-2	D272	E-6
IC003	D-1	D501	I-8
IC005	H-2	D504	F-6
IC251	G-5	D506	H-7
IC261	D-5	D508	J-6
IC501	H-7	D509	F-7
IC502	G-7	D511	G-7
IC601	A-8	D512	G-7
IC604	A-5	D513	G-7
IC608	B-3	D601	B-10
TRANSISTOR		D602	C-8
Q001	E-2	D603	A-7
Q002	E-3	D604	A-7
Q003	E-1	D605	C-8
Q004	F-2	D606	C-8
Q005	C-2	D607	B-8
Q006	C-1	D608	C-9
Q007	H-2	D609	B-8
Q008	H-2	D610	C-5
Q009	D-3	D611	E-7
Q010	A-2	D612	B-5
Q251	G-5	D613	A-6
Q261	E-5	D614	A-6
Q271	D-6	D616	E-6
Q502	H-7	D617	B-7
Q505	F-7	D618	E-6
Q506	F-7	D619	B-8
Q507	J-6	D620	E-6
Q598	I-2	D621	B-8
Q601	B-4	D622	E-6
Q602	C-10	D623	B-5
Q603	B-5	D624	C-5
Q604	A-7	D630	E-7
Q605	E-7	D801	G-10
Q606	D-5	D802	H-12
Q607	D-6	D803	I-13
Q608	D-6	D804	F-9
Q609	C-5	D805	F-9
Q801	J-6	D806	F-12
Q804	G-13	D807	F-12
Q805	G-9	D808	E-11
DIODE		TP	
D003	B-3	TP91	J-11
D005	I-2	(+ B)	
D006	G-1	VARIABLE RESISTOR	
D007	A-2	RV501	G-6
D009	F-1	RV502	I-8
D010	I-2	RV601	A-8
D011	I-2		
D012	D-2		



## B BOARD

- B Board -

IC	
IC301	B-5
IC302	C-9
IC303	G-10
IC331	E-2
IC332	G-5
TRANSISTOR	
Q301	E-7
Q303	C-11
Q305	A-9
Q311	C-3
Q312	D-4
Q313	C-4
Q316	D-4
Q330	G-10
Q332	H-11
Q333	G-9
Q334	F-7
Q381	D-10
Q382	C-8
Q1301	E-8
Q1306	E-7
DIODE	
D301	B-3
D302	B-3
D303	B-3
D304	C-3
D305	B-2
D307	B-9
D308	B-6
D309	B-10
D310	B-8
D311	B-8
D312	A-7
D313	A-8
D314	A-5
D315	B-2
D316	B-2
D317	B-2
D318	A-2
D319	A-3
D320	A-2
D350	G-4
TRIMMER	
CT331	D-2
CT332	D-3
COIL	
L331	G-2
L336	G-7
VARIABLE RESISTOR	
RV331	H-2





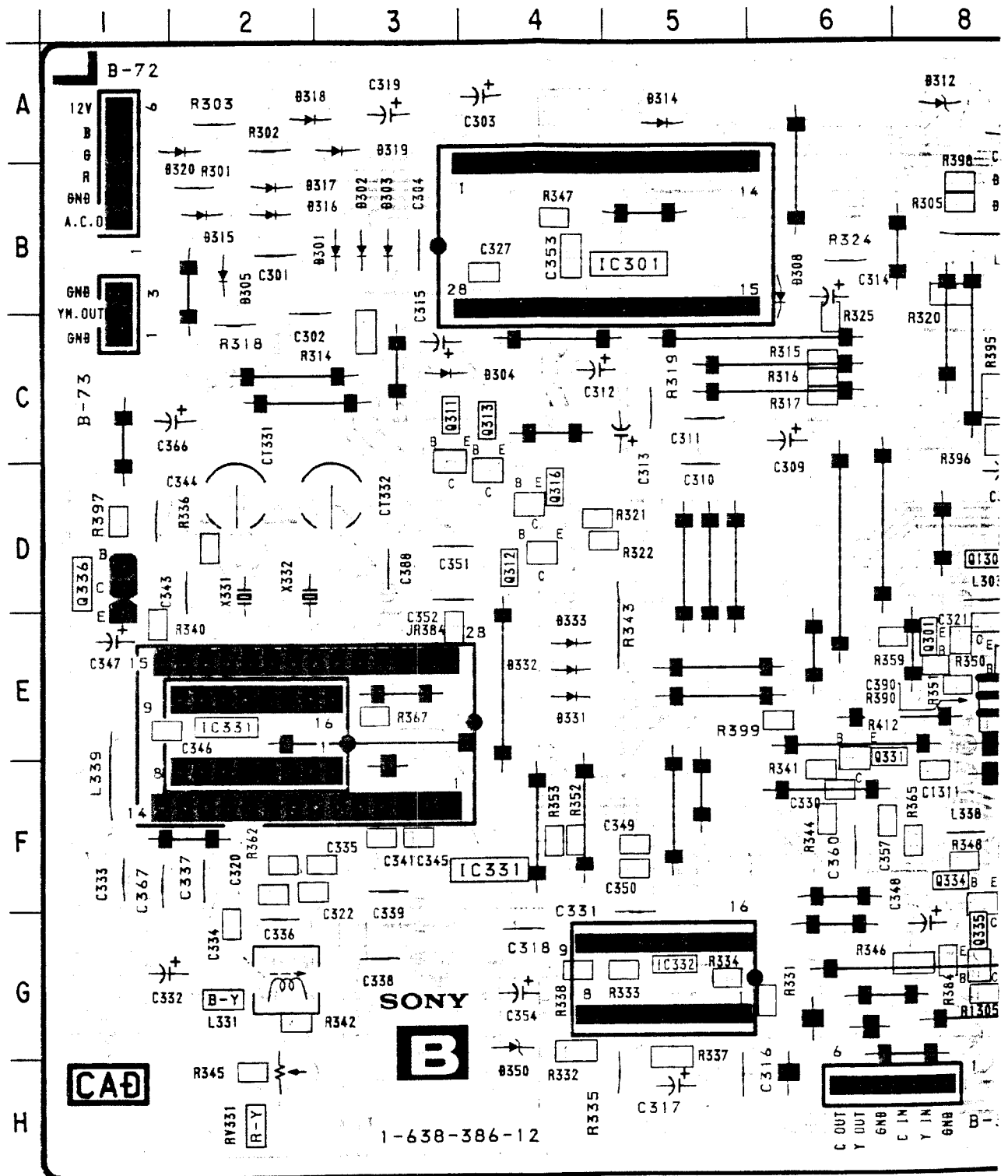
**B**

[CHROMA DECODER]

- B Board -

BOARD

IC	
IC301	B-5
IC302	C-9
IC303	G-10
IC331	E-2
IC332	G-5
TRANSISTOR	
Q301	E-7
Q303	C-11
Q305	A-9
Q311	C-3
Q312	D-4
Q313	C-4
Q316	D-4
Q330	G-10
Q332	H-11
Q333	G-9
Q334	F-7
Q381	D-10
Q382	C-8
Q1301	E-8
Q1306	E-7
DIODE	
D301	B-3
D302	B-3
D303	B-3
D304	C-3
D305	B-2
D307	B-9
D308	B-6
D309	B-10
D310	B-8
D311	B-8
D312	A-7
D313	A-8
D314	A-5
D315	B-2
D316	B-2
D317	B-2
D318	A-2
D319	A-3
D320	A-2
D350	G-4
TRIMMER	
CT331	D-2
CT332	D-3
COIL	
L331	G-2
L336	G-7
VARIABLE RESISTOR	
RV331	H-2



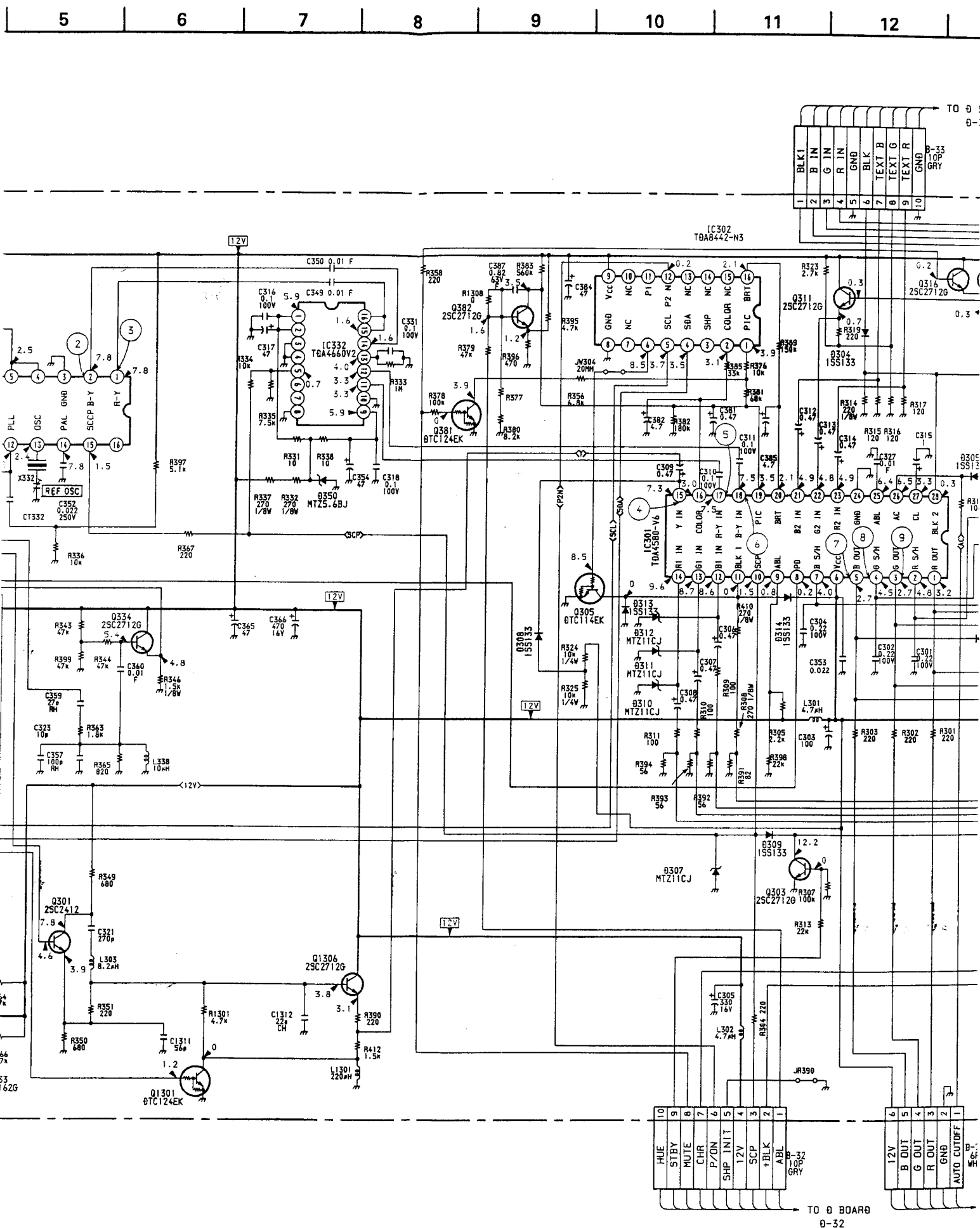




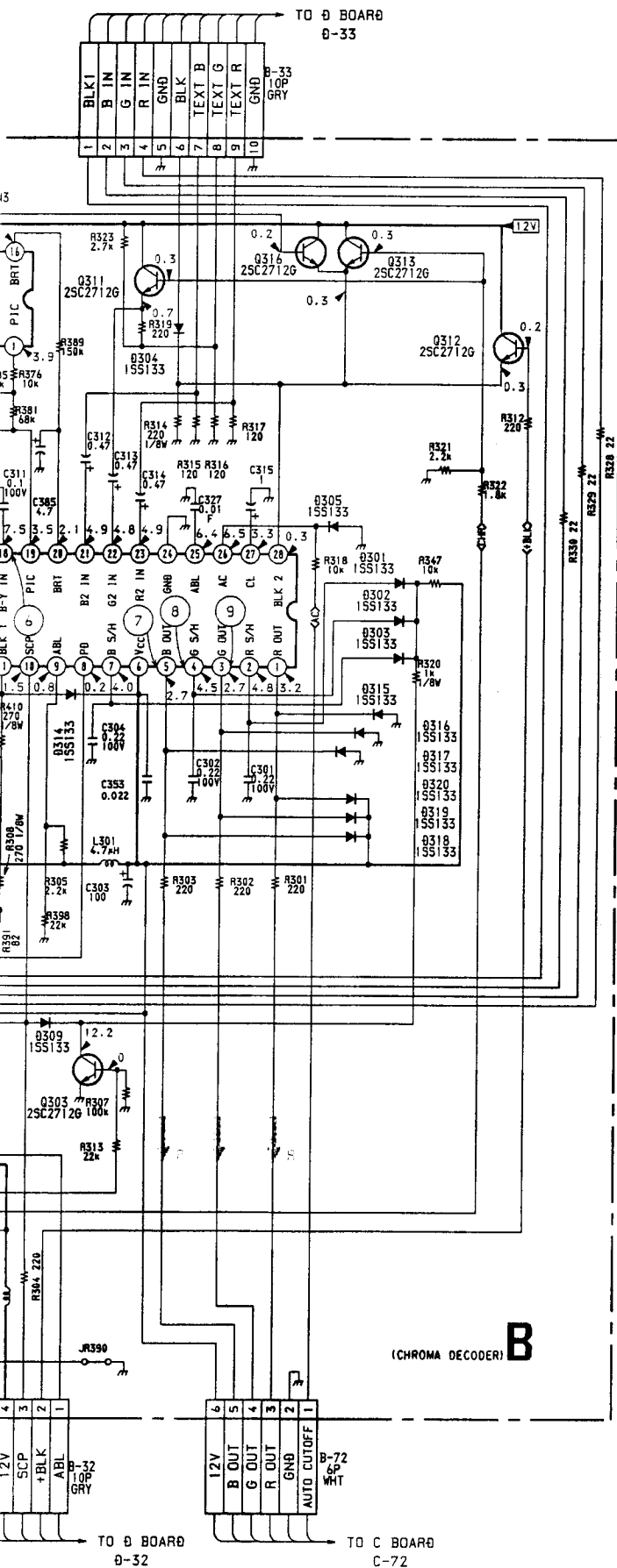




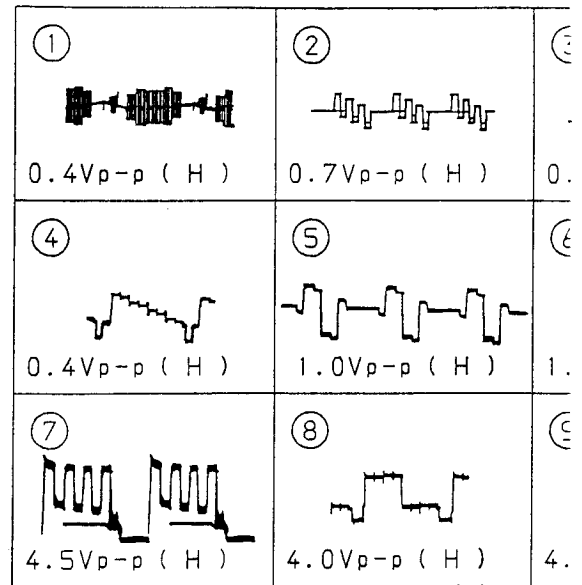








### Waveforms B Board

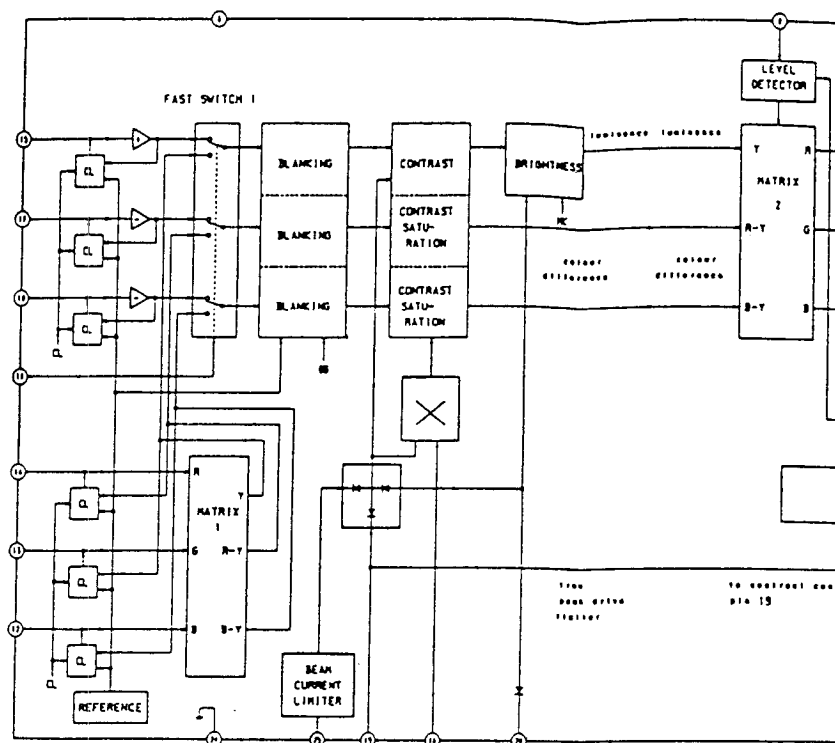
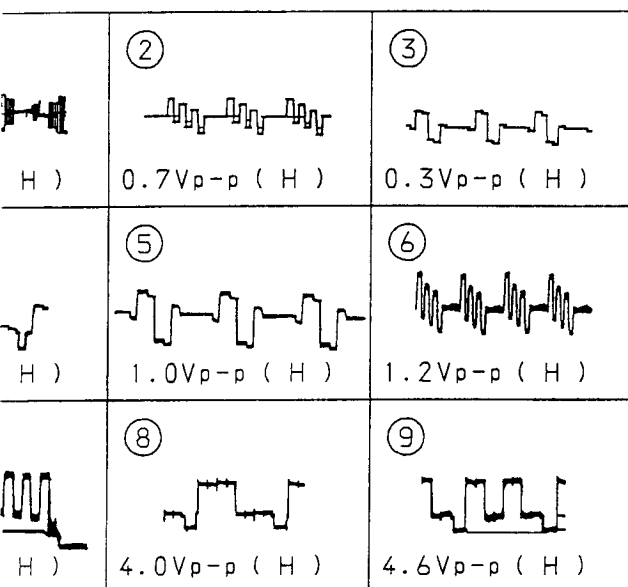


### B Board

IC301	TDA4580-V6	VIDEO PROCESSOR
IC302	TDA8442-N3	D/A CONVERTER IC BUS
IC303	MC14053BCP	Y/C COMP SW
IC331	TDA4510	COLOR PROCESSOR
IC332	TDA4660V2	1H-DELAY
Q301	2SC2412	Y BUFFER
Q303	2SC2712G	STBY SW
Q305	DTC114EK	ANTI PRIORITY SCART
Q311	2SC2712G	ON SCREEN DISPLAY SW
Q312	2SC2712G	CANRL +BLK
Q313	2SC2712G	ON SCREEN DISPLAY
Q316	2SC2712G	FAS PICTURE MUTE SW
Q330	2SA1162G	VIDEO AMP
Q332	2SA1162G	VIDEO BUFF
Q333	2SA1162G	Y AMP
Q334	2SC2712G	PAL/NTSC SW
Q381	DTC124EK	MUTE
Q382	2SC2712G	ABL
Q1301	DTC124EK	Y BUFF
Q1306	2SC2712G	Y OUT
D301	1SS133	ACO AT STBY
D302	1SS133	ACO AT STBY
D303	1SS133	ACO AT STBY
D304	1SS133	DECOUPLING BLK
D305	1SS133	PROT
D307	MTZ11CJ	PROT
D308	1SS133	PROT
D309	1SS133	PROT
D310	MTZ11CJ	PROT
D311	MTZ11CJ	PROT
D312	MTZ11CJ	PROT
D313	1SS133	PROT
D314	1SS133	PROT
D315	1SS133	PROT
D316	1SS133	PROT
D317	1SS133	PROT
D318	1SS133	PROT
D319	1SS133	PROT
D320	1SS133	PROT
D350	MTZ5.6BJ	PROT

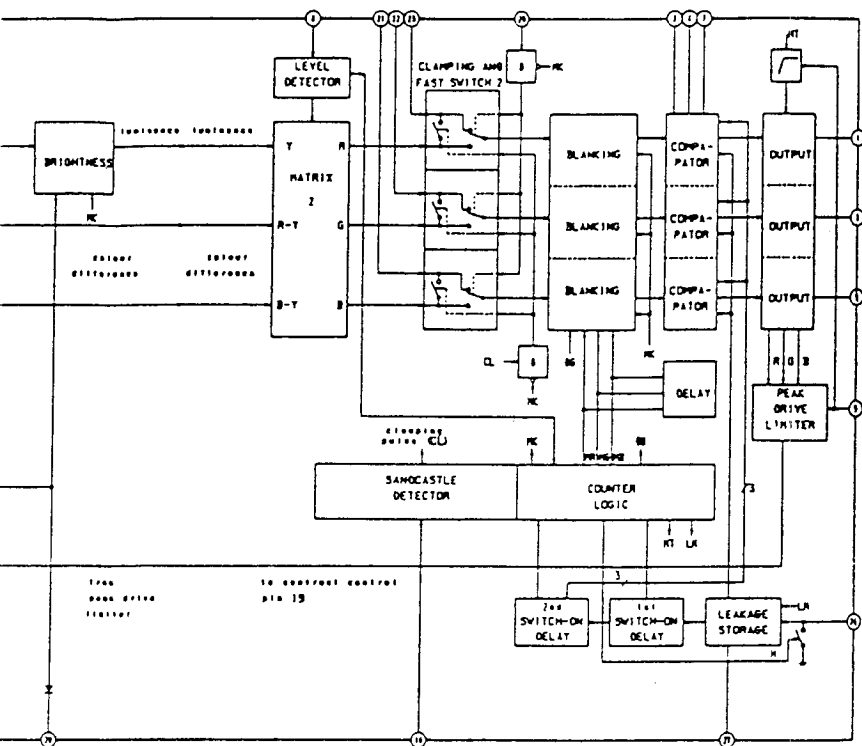


## Board

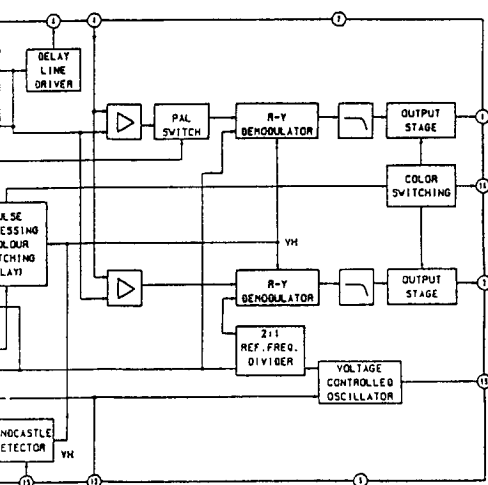
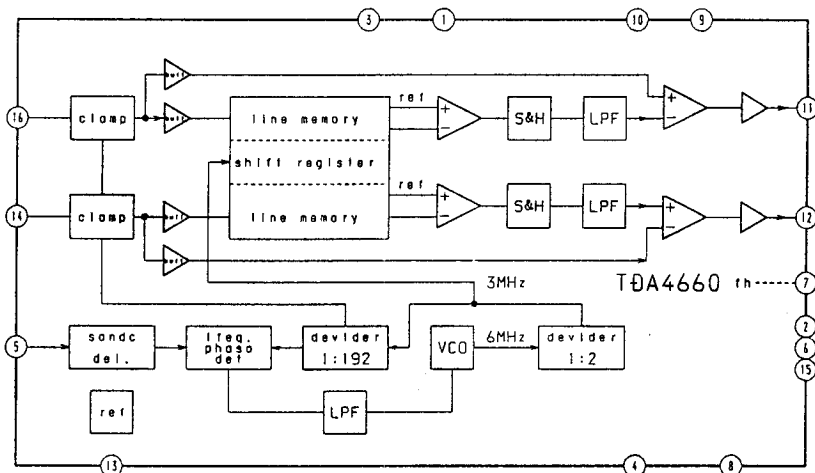
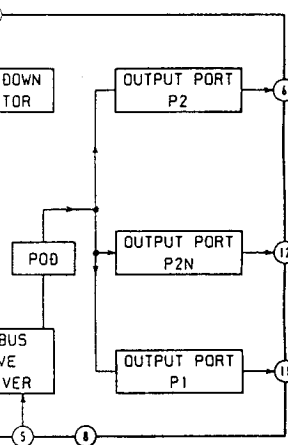
[illegible][illegible]

The diagram illustrates the video processing section of a color television receiver. It shows the flow of video signals from input (1) through various stages including Gain Control, Burst Blanking, Delay Line Driver, PAL Switch, R-Y Demodulator, and Pulse Processing Colour Switching Delay. It also includes a Service section with a Gated Phase Comparator & Burstgate, a Gated Invert. Demodulator, and a Sandcastle Detector. The output is connected to an R-Y Demodulator and a 2:1 Ref. Freq. Divider. The diagram is labeled with various control signals like B.T., H, and V.

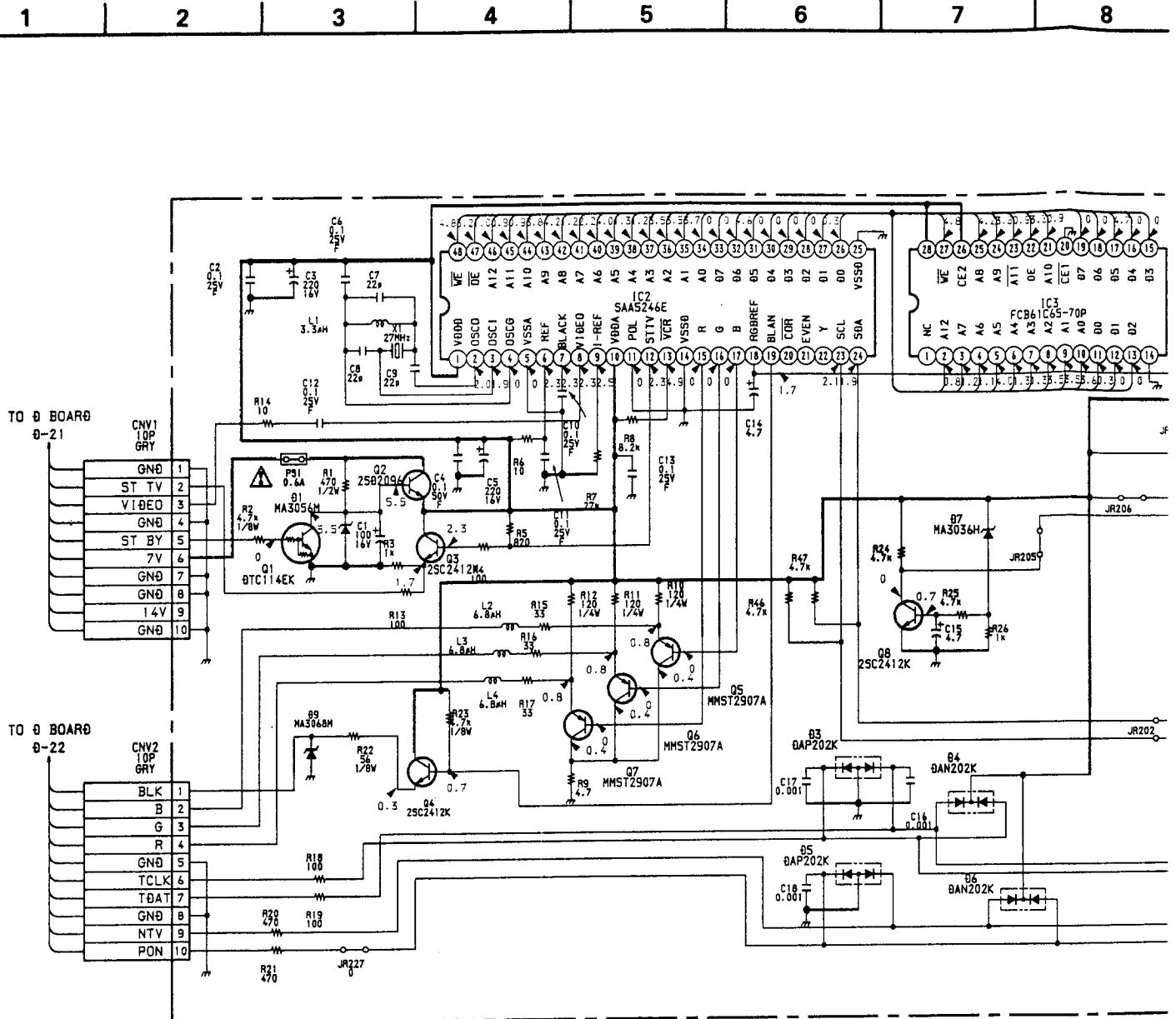




B Board IC332 TDA4660V2





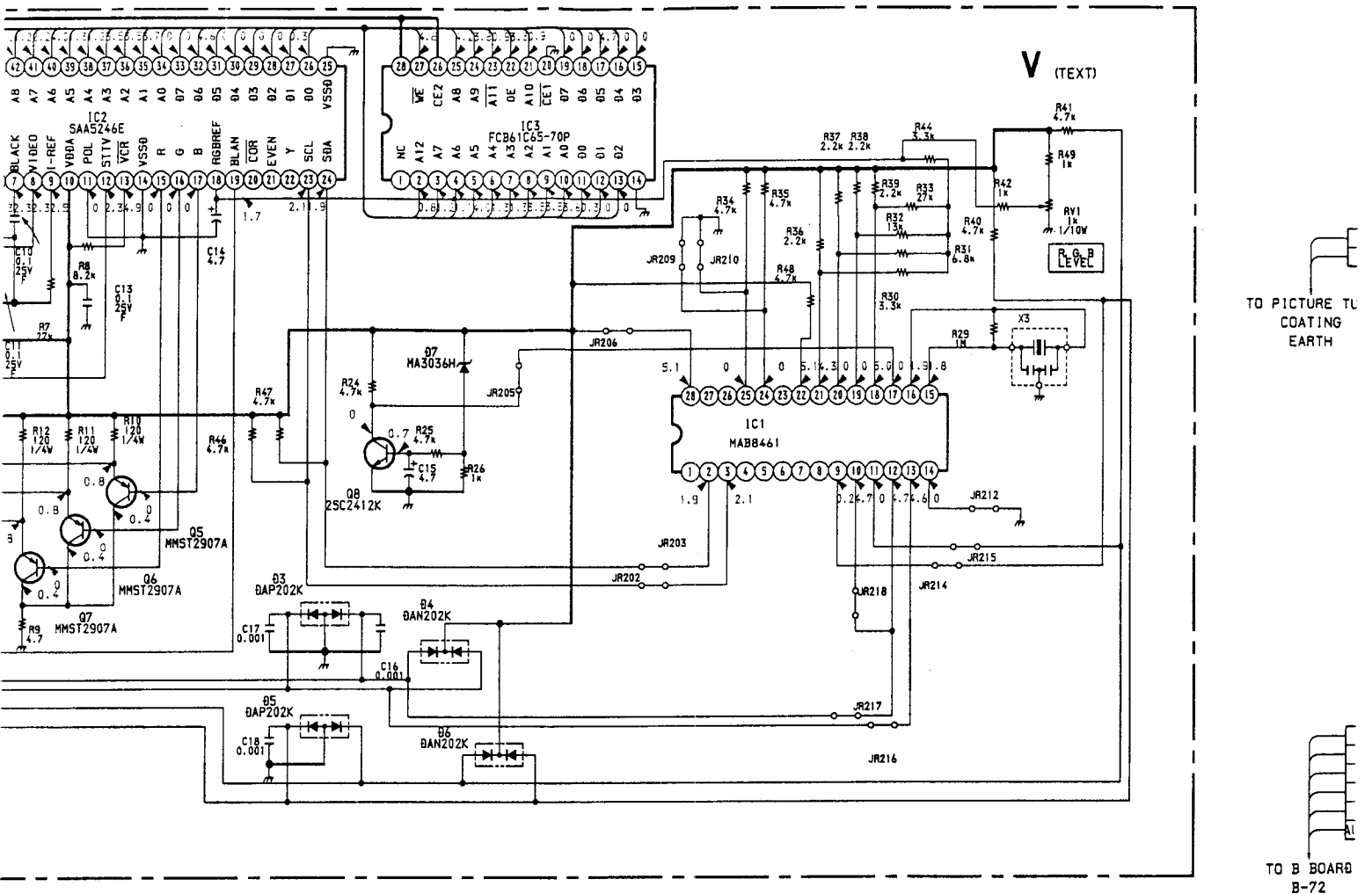


## V BOARD

IC001	MAB8461	M
IC002	SAA5246E	I
IC003	FCB61C65-70P	S
Q001	0TC114EK	S
Q002	2S02096	S
Q003	2SC2412K	S
Q004	2SC2412K	E
Q005	MMST2907A	E
Q006	MMST2907A	G
Q007	MMST2907A	F
Q008	2SC2412K	F
Q009	MA3036H	F
Q010	MA3068H	F
Q011	MA3056M	S
Q012	0AP202K	F
Q013	0AN202K	F
Q014	0AP202K	F
Q015	0AN202K	F
Q016	0AN202K	F
Q017	MA3036H	F
Q018	MA3068H	F



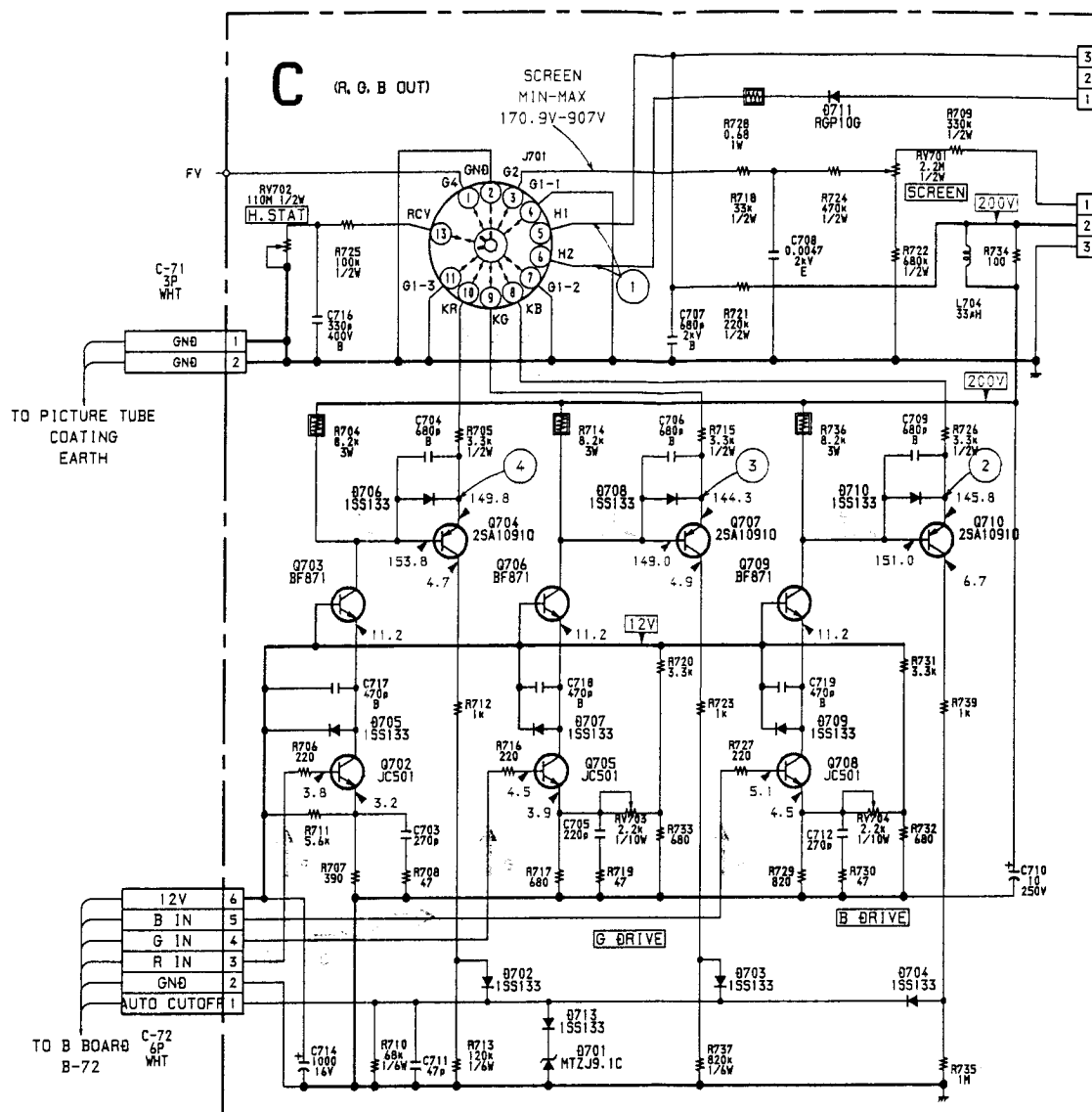
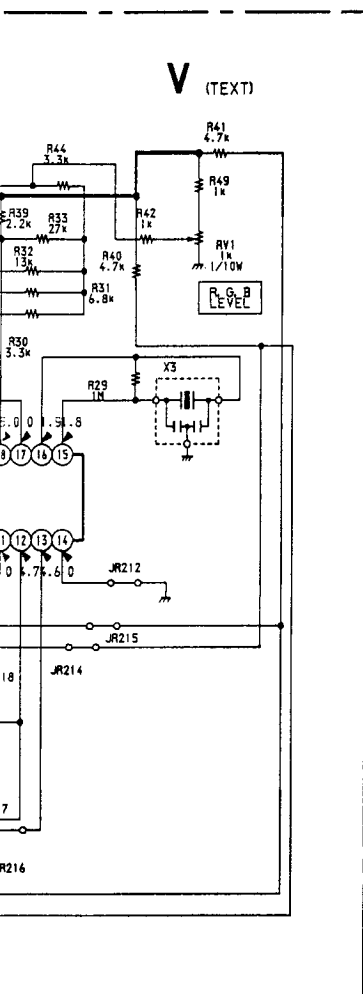
5 6 7 8 9 10 11 12



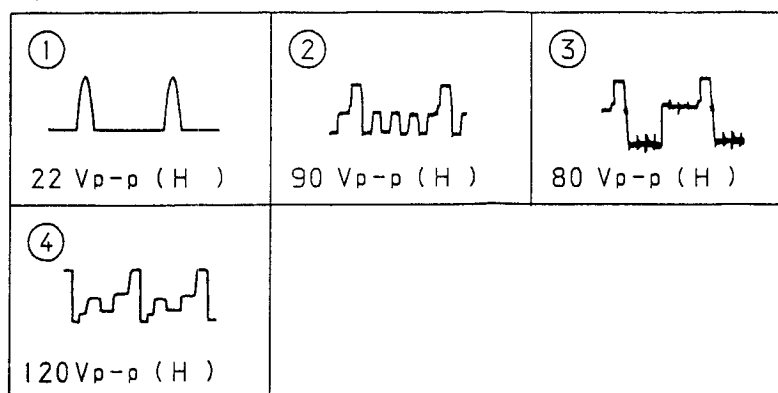
## V BOARD

IC001	MAB8461	MICRO-CONT
IC002	SAA5246E	INT
IC003	FCB61C65-70P	STATIC-RAM
Q001	QTC114EK	STAND BY
Q002	2S02096	SV REG
Q003	2SC2412K	SYNC BUFFER
Q004	2SC2412K	BLK OUT
Q005	MMST2907A	B OUT
Q006	MMST2907A	G OUT
Q007	MMST2907A	R OUT
Q008	2SC2412K	PON SW
Q009	MA3056M	SV REG
Q001	QAP202K	PROTECT
Q003	QAN202K	PROTECT
Q005	QAP202K	PROTECT
Q006	QAN202K	PROTECT
Q007	MA3036H	PROTECT
Q009	MA3068M	PROTECT





Waveforms C Board



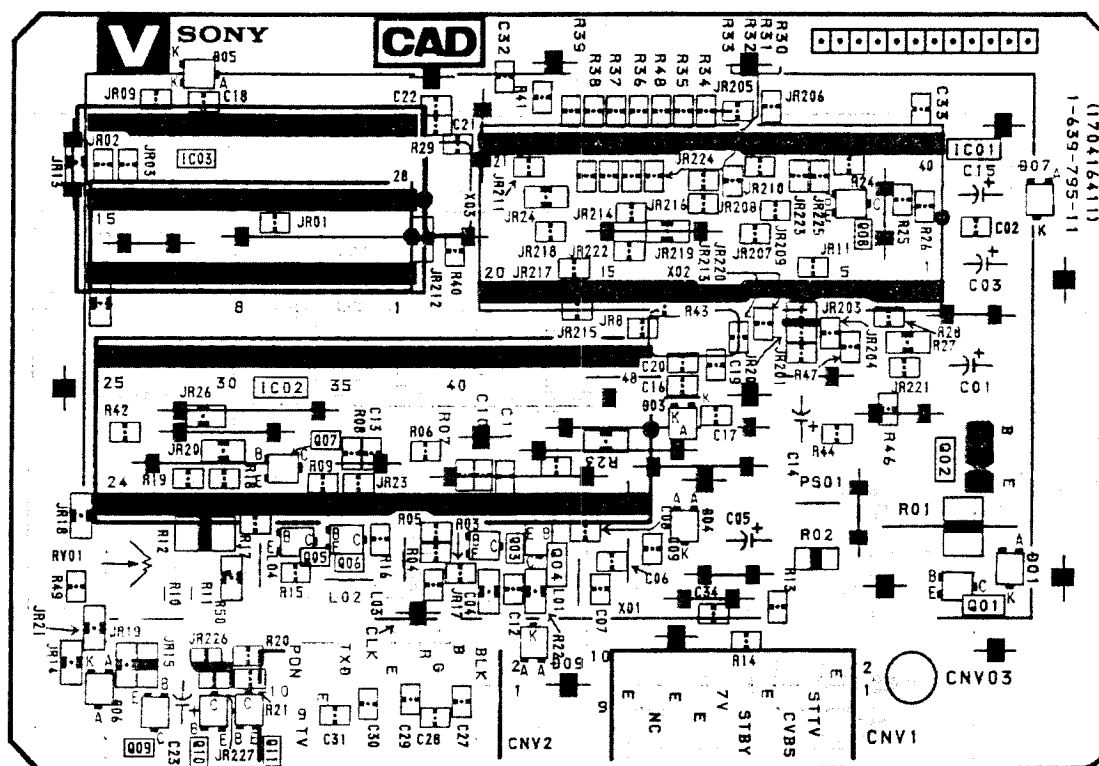




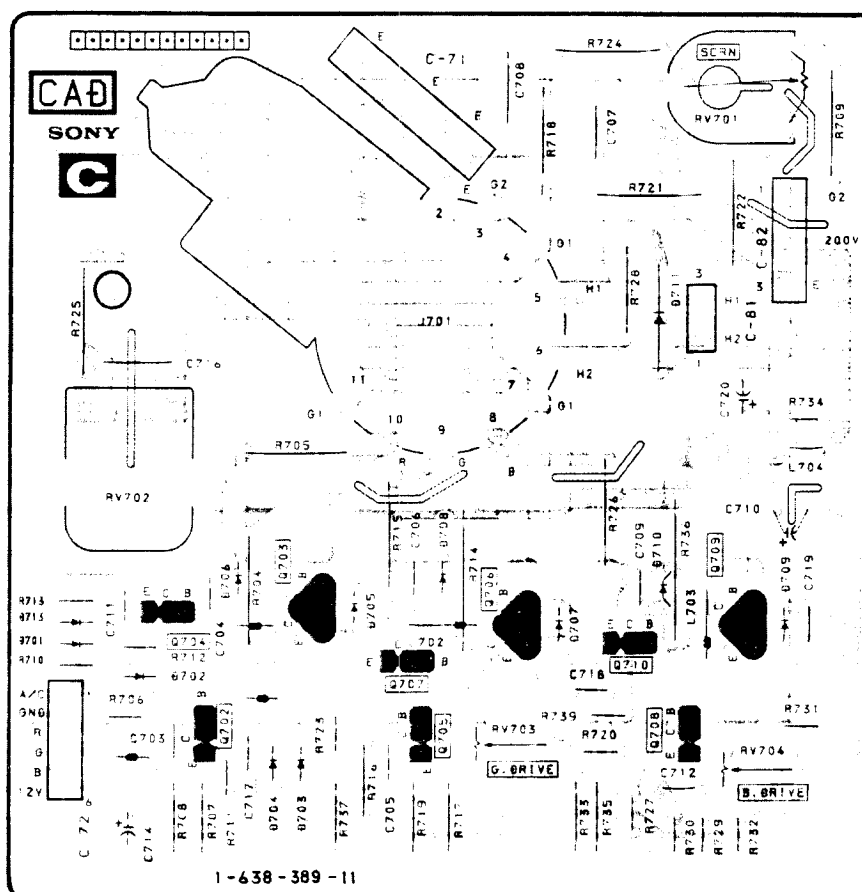


**V** [TEXT] **C** [R, G, B OUT]

— V Board —



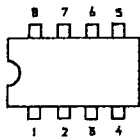
— C Board —





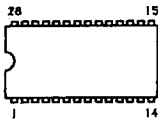
## 5-4. SEMICONDUCTORS

RC4558P  
S0A2546  
TBA129  
TEA2014A  
TEA2031A



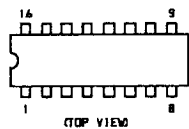
(Top view)

CXA1114P  
FCB61C65-70P  
MAB8461P-W177  
T0A4580-V6  
T0A4650  
T0A6200  
TEA2028B



(Top view)

MC14053BCP  
PCF8574  
TC4051BPHB  
T0A4660V2  
T0A8442N3  
TEA2260  
TDA4510



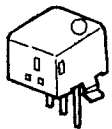
(TOP VIEW)

SAA5246P/E

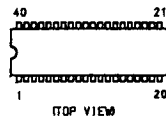


(TOP VIEW)

SBX1610-11

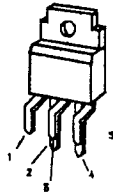


S0A20560A-008

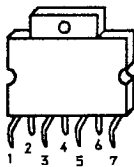


(TOP VIEW)

T0A2050



T0A8170



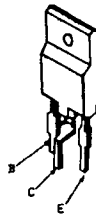
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TEA7605  
TYA7812CT



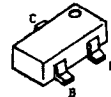
BF871



2S01548-LB



0TA144EK  
0TC114EK  
0TC124EK  
0TC144EK  
2SA1162-G  
2SB1295-UL6  
2SC1623-L6  
2SC2412K-R  
2SC2412K-QR  
20S1941-06



0TC124ES  
0TC144ES



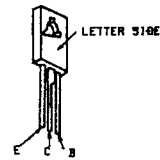
2SA1091-0



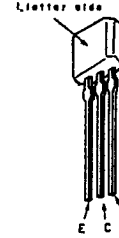
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2S0774-34



2SA1220AP  
2SC2688-LK



2SC2785-HFE



2S0789-34



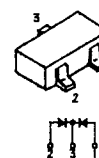
2S02096-EF



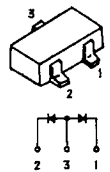
CTU-125



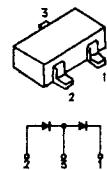
MA152WK



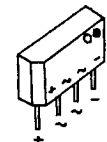
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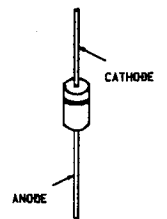
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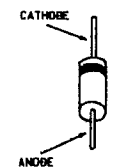
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EGP20G  
ERC06-15S  
RU-3AM

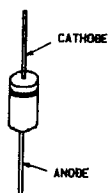


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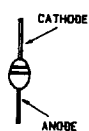




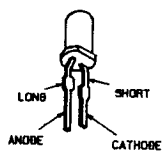
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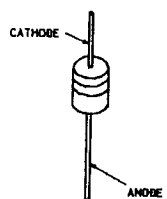
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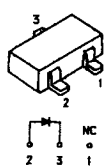
L0-201VR



MTZJ-3.9B  
MTZJ-6.2B  
MTZJ-13B  
MTZJ-15A  
MTZJ-33A  
MTZJ-36D  
MTZN-10C  
R05.6ES-B2  
R06.8ES-B2  
R09.1ES-B3  
R011ES-B3  
UZ-4.7BSC  
1SS119



R03.6M-B2  
R05.6M-B2  
R06.8M-B2





## SECTION 6

### EXPLODED VIEWS

## NOTE:

- Items with no part number and no description are not stocked because they are seldom required for routine service.
- The construction parts of an assembled part are indicated with a collation number in the remark column.

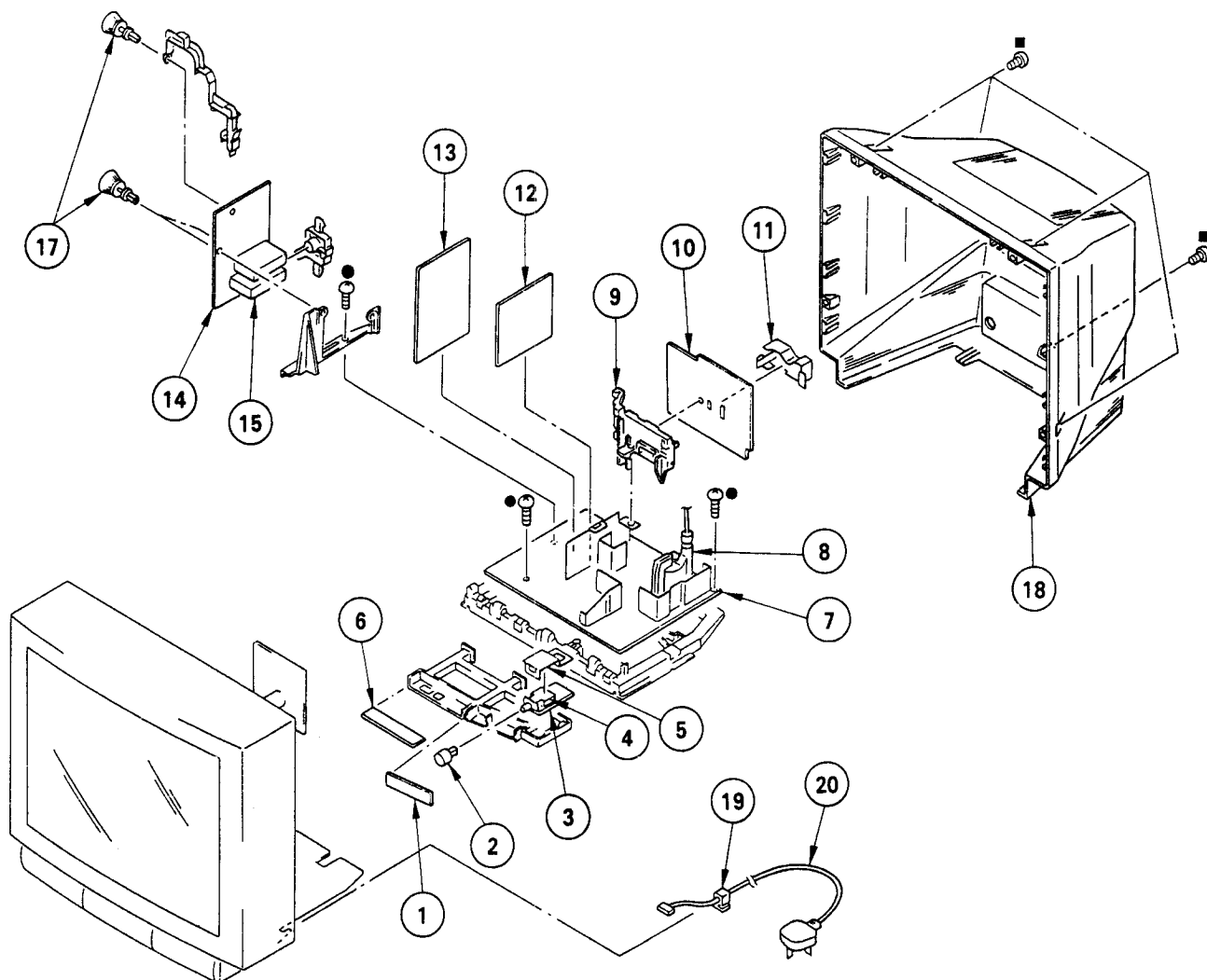
- Items marked " \* " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

The components identified by shading and mark  $\Delta$  are critical for safety.  
Replace only with part number specified.

**6-1. CHASSIS**

●: BVTP3  $\times$  12    7-685-648-79

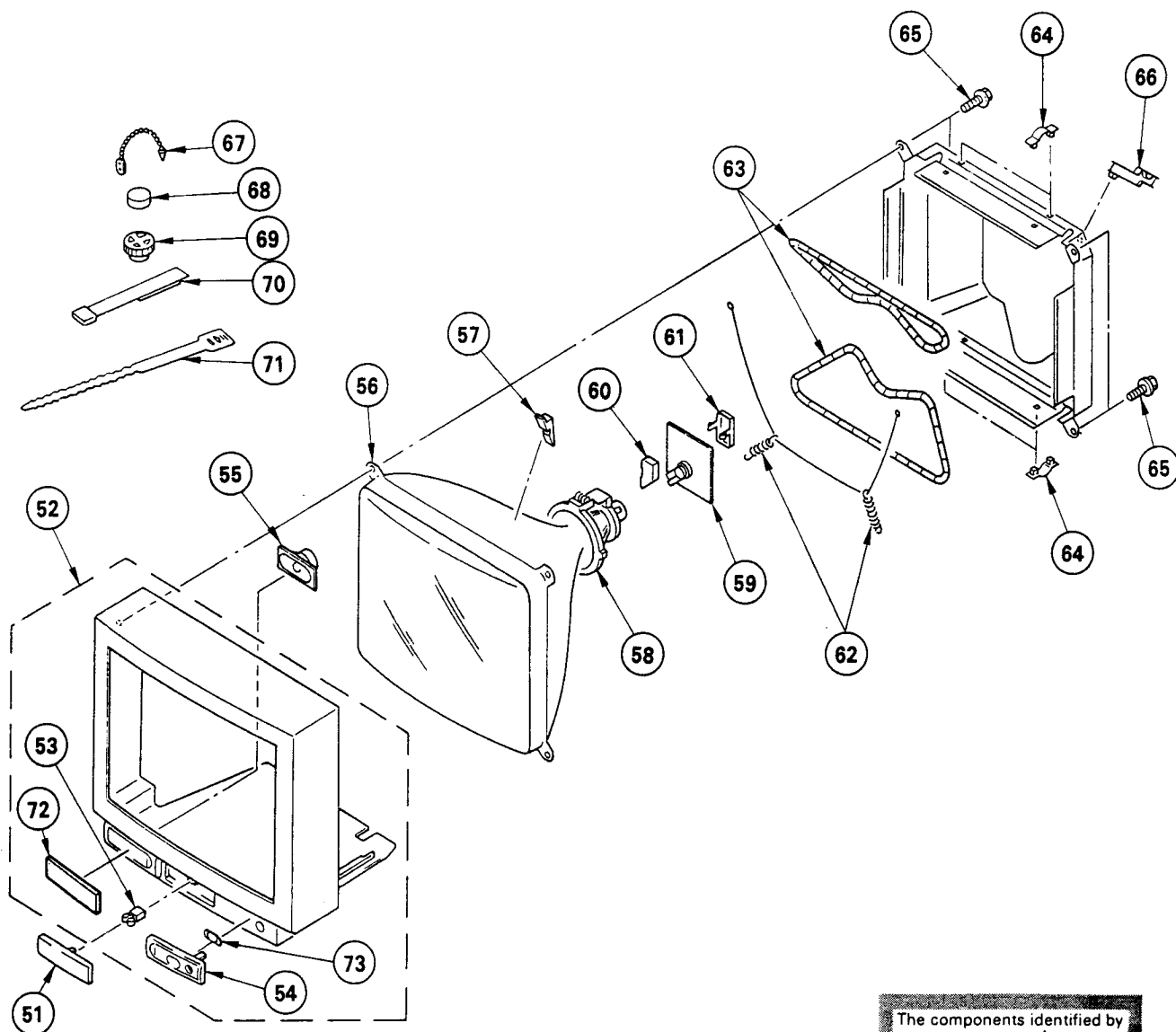
■: BVTP4  $\times$  16    7-685-663-79



REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
1	*1-638-392-11	H2 BOARD		11	4-200-014-01	BRACKET, TERMINAL	
2	4-200-639-01	BUTTON, POWER		12	A-1645-015-A	V BOARD, COMPLETE	
3	*1-638-390-11	F BOARD		13	A-1621-016-A	B BOARD, COMPLETE	
4	$\Delta$ .1-571-433-12	SWITCH, PUSH (AC POWER)		14	A-1632-037-A	A BOARD, COMPLETE	
5	4-200-757-01	COVER, POWER SWITCH		15	$\Delta$ .1-465-515-11	TUNER (SUF944PLL)	
6	*1-638-391-11	H1 BOARD		17	4-386-618-01	RIVET, T TYPE	
7	A-1642-040-A	D BOARD, COMPLETE		18	4-200-645-01	COVER, REAR	
8	$\Delta$ .1-439-416-51	TRANSFORMER ASSY, FLYBACK (UX-1650)		19	$\Delta$ .4-389-201-02	HOLDER, AC CORD	
9	*4-386-624-11	BRACKET, J		20	$\Delta$ .1-590-762-11	CORD, POWER (WITH PLUG)	
10	A-1651-021-A	J1 BOARD, COMPLETE					



## 6-2. PICTURE TUBE



The components identified by shading and mark  $\Delta$  are critical for safety. Replace only with part number specified.

REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
51	4-200-641-11	DOOR		62	4-303-774-99	SPRING	
52	X-4200-066-1	CABINET ASSY (WITH BEZEL ASSY)	53,54,72,73	63	$\Delta$ 1-460-091-11	COIL DEGAUSS	
53	4-392-036-01	CATCHER, PUSH		64	*4-385-916-01	HOLDER (D)	
54	4-200-644-01	WINDOW, ORNAMENTAL		65	4-373-263-01	SCREW (M), PT	
55	1-503-258-21	SPEAKER		66	*4-387-216-01	HOLDER, LEAD	
56	$\Delta$ 8-733-224-05	PICTURE TUBE (A59JWC60X)		67	4-308-870-00	CLIP, LEAD WIRE	
57	3-704-495-01	SPACER, DY		68	1-452-032-00	MAGNET, DISK; 10MM $\phi$	
58	$\Delta$ 1-451-311-21	DEFLECTION YOKE (Y25FXA)		69	1-452-094-00	MAGNET, ROTATABLE DISK; 15MM $\phi$	
59	*A-1638-011-A	C BOARD, COMPLETE		70	X-4387-214-1	PERMALLOY ASSY, CORRECTION	
60	*4-379-167-01	COVER (MAIN), CV		71	3-701-007-00	BAND, BINDING	
61	*4-379-160-01	COVER (REAR LID), CV		72	4-200-643-01	FRAME, SPEAKER	
				73	4-200-736-01	LID	







B

F

REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
IC332	8-759-505-39	IC TDA4660V2		R336	1-216-073-00	METAL GLAZE 10K 5%	1/10W
		<COIL>		R337	1-216-184-00	METAL GLAZE 270 5%	1/8W
L301	1-410-868-11	INDUCTOR 4.7UH		R338	1-216-001-00	METAL GLAZE 10 5%	1/10W
L302	1-410-868-11	INDUCTOR 4.7UH		R343	1-249-437-11	CARBON 47K 5%	1/4W
L303	1-408-406-00	INDUCTOR 5.6UH		R344	1-216-089-00	METAL GLAZE 47K 5%	1/10W
L338	1-408-409-00	INDUCTOR 10UH		R346	1-216-202-00	METAL GLAZE 1.5K 5%	1/8W
L1301	1-408-425-00	INDUCTOR 220UH		R347	1-216-073-00	METAL GLAZE 10K 5%	1/10W
L1302	1-408-419-00	INDUCTOR 68UH		R349	1-216-045-00	METAL GLAZE 680 5%	1/10W
		<TRANSISTOR>		R350	1-216-045-00	METAL GLAZE 680 5%	1/10W
Q301	8-729-120-28	TRANSISTOR 2SC1623-L5L6		R351	1-216-033-00	METAL GLAZE 220 5%	1/10W
Q303	8-729-120-28	TRANSISTOR 2SC1623-L5L6		R356	1-216-069-00	METAL GLAZE 6.8K 5%	1/10W
Q305	8-729-901-06	TRANSISTOR DTA144EK		R358	1-216-033-00	METAL GLAZE 220 5%	1/10W
Q311	8-729-120-28	TRANSISTOR 2SC1623-L5L6		R359	1-216-089-00	METAL GLAZE 47K 5%	1/10W
Q312	8-729-120-28	TRANSISTOR 2SC1623-L5L6		R360	1-216-089-00	METAL GLAZE 47K 5%	1/10W
Q313	8-729-120-28	TRANSISTOR 2SC1623-L5L6		R361	1-216-057-00	METAL GLAZE 2.2K 5%	1/10W
Q316	8-729-120-28	TRANSISTOR 2SC1623-L5L6		R363	1-216-055-00	METAL GLAZE 1.8K 5%	1/10W
Q330	8-729-216-22	TRANSISTOR 2SA1162-G		R364	1-216-059-00	METAL GLAZE 2.7K 5%	1/10W
Q332	8-729-216-22	TRANSISTOR 2SA1162-G		R365	1-216-047-00	METAL GLAZE 820 5%	1/10W
Q333	8-729-216-22	TRANSISTOR 2SA1162-G		R366	1-216-059-00	METAL GLAZE 2.7K 5%	1/10W
Q334	8-729-120-28	TRANSISTOR 2SC1623-L5L6		R367	1-216-033-00	METAL GLAZE 220 5%	1/10W
Q381	8-729-901-00	TRANSISTOR DTC124EK		R372	1-216-023-00	METAL GLAZE 82 5%	1/10W
Q382	8-729-120-28	TRANSISTOR 2SC1623-L5L6		R376	1-249-429-11	CARBON 10K 5%	1/4W
Q1301	8-729-901-00	TRANSISTOR DTC124EK		R377	1-216-043-00	METAL GLAZE 560 5%	1/10W
Q1306	8-729-120-28	TRANSISTOR 2SC1623-L5L6		R378	1-216-097-00	METAL GLAZE 100K 5%	1/10W
		<RESISTOR>		R379	1-216-089-00	METAL GLAZE 47K 5%	1/10W
JR385	1-216-296-00	METAL GLAZE 0 5%	1/8W	R380	1-216-071-00	METAL GLAZE 8.2K 5%	1/10W
JR387	1-216-295-00	METAL GLAZE 0 5%	1/10W	R381	1-216-093-00	METAL GLAZE 68K 5%	1/10W
JR390	1-216-295-00	METAL GLAZE 0 5%	1/10W	R382	1-216-103-00	METAL GLAZE 180K 5%	1/10W
R301	1-249-409-11	CARBON 220 5%	1/4W	R383	1-216-115-00	METAL GLAZE 560K 5%	1/10W
R302	1-249-409-11	CARBON 220 5%	1/4W	R385	1-216-085-00	METAL GLAZE 33K 5%	1/10W
R303	1-249-409-11	CARBON 220 5%	1/4W	R387	1-216-049-00	METAL GLAZE 1K 5%	1/10W
R304	1-249-409-11	CARBON 220 5%	1/4W	R388	1-216-049-00	METAL GLAZE 1K 5%	1/10W
R305	1-216-057-00	METAL GLAZE 2.2K 5%	1/10W	R389	1-216-101-00	METAL GLAZE 150K 5%	1/10W
R306	1-216-057-00	METAL GLAZE 2.2K 5%	1/10W	R390	1-216-033-00	METAL GLAZE 220 5%	1/10W
R307	1-216-097-00	METAL GLAZE 100K 5%	1/10W	R392	1-216-019-00	METAL GLAZE 56 5%	1/10W
R308	1-216-296-00	METAL GLAZE 0 5%	1/8W	R393	1-216-019-00	METAL GLAZE 56 5%	1/10W
R309	1-216-025-00	METAL GLAZE 100 5%	1/10W	R394	1-216-019-00	METAL GLAZE 56 5%	1/10W
R310	1-216-025-00	METAL GLAZE 100 5%	1/10W	R395	1-216-214-00	METAL GLAZE 4.7K 5%	1/8W
R311	1-216-025-00	METAL GLAZE 100 5%	1/10W	R396	1-216-041-00	METAL GLAZE 470 5%	1/10W
R312	1-249-409-11	CARBON 220 5%	1/4W	R397	1-216-066-00	METAL GLAZE 5.1K 5%	1/10W
R313	1-216-081-00	METAL GLAZE 22K 5%	1/10W	R398	1-216-081-00	METAL GLAZE 22K 5%	1/10W
R314	1-216-182-00	METAL GLAZE 220 5%	1/8W	R399	1-216-089-00	METAL GLAZE 47K 5%	1/10W
R315	1-216-031-00	METAL GLAZE 180 5%	1/10W	R401	1-216-053-00	METAL GLAZE 1.5K 5%	1/10W
R316	1-216-031-00	METAL GLAZE 180 5%	1/10W	R402	1-216-051-00	METAL GLAZE 1.2K 5%	1/10W
R317	1-216-031-00	METAL GLAZE 180 5%	1/10W	R403	1-216-025-00	METAL GLAZE 100 5%	1/10W
R318	1-249-429-11	CARBON 10K 5%	1/4W	R404	1-216-059-00	METAL GLAZE 2.7K 5%	1/10W
R319	1-249-409-11	CARBON 220 5%	1/4W	R405	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W
R320	1-216-198-00	METAL GLAZE 1K 5%	1/8W	R406	1-216-061-00	METAL GLAZE 3.3K 5%	1/10W
R321	1-216-057-00	METAL GLAZE 2.2K 5%	1/10W	R407	1-216-047-00	METAL GLAZE 820 5%	1/10W
R322	1-216-055-00	METAL GLAZE 1.8K 5%	1/10W	R410	1-216-184-00	METAL GLAZE 270 5%	1/8W
R328	1-216-009-00	METAL GLAZE 22 5%	1/10W	R412	1-216-053-00	METAL GLAZE 1.5K 5%	1/10W
R329	1-216-009-00	METAL GLAZE 22 5%	1/10W	R1301	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W
R330	1-216-009-00	METAL GLAZE 22 5%	1/10W	R1308	1-216-295-00	METAL GLAZE 0 5%	1/10W
R331	1-216-001-00	METAL GLAZE 10 5%	1/10W			<CRYSTAL>	
R332	1-216-184-00	METAL GLAZE 270 5%	1/8W	X332	1-567-131-00	OSCILLATOR, CRYSTAL	
R333	1-216-121-00	METAL GLAZE 1M 5%	1/10W			*****	
R334	1-216-073-00	METAL GLAZE 10K 5%	1/10W		*1-638-390-11	F BOARD	
R335	1-247-852-11	CARBON 7.5K 5%	1/4W			*****	
					*4-341-752-01	EYELET	



The components identified by shading and mark  $\Delta$  are critical for safety.  
Replace only with part number specified.

KV-M2521U  
RM-816

F A C

REF.NO.	PART NO.	DESCRIPTION	REMARK
<CAPACITOR>			
F61	*1-580-690-11	PIN, CONNECTOR (PC BOARD) 4P	
F62	*1-580-690-11	PIN, CONNECTOR (PC BOARD) 4P	
<FUSE>			
F1601	$\Delta$ 1-532-504-31	FUSE 4A/250V	
	1-533-230-11	HOLDER, FUSE; F1601	
<SWITCH>			
S1701	$\Delta$ 1-571-433-12	SWITCH, PUSH (AC POWER)	
*****			
	A-1632-037-A	A BOARD, COMPLETE	*****
<CONNECTOR>			
A11	*1-565-393-11	CONNECTOR, BOARD TO BOARD	
A12	*1-565-393-11	CONNECTOR, BOARD TO BOARD	
<CAPACITOR>			
C101	1-126-233-11	ELECT 22MF 20% 50V	
C102	1-126-103-11	ELECT 470MF 20% 16V	
C104	1-124-910-11	ELECT 47MF 20% 50V	
C106	1-126-233-11	ELECT 22MF 20% 50V	
C108	1-136-165-00	FILM 0.1MF 5% 50V	
C109	1-216-295-00	METAL GLAZE 0 5% 1/10W	
C177	1-102-074-00	CERAMIC 0.001MF 10% 50V	
C182	1-163-061-00	CERAMIC CHIP 0.015MF 10% 50V	
<IC>			
IC103	8-759-979-62	IC PCF8574	
<COIL>			
L100	1-410-683-31	INDUCTOR 560UH	
L101	1-408-225-00	INDUCTOR 3.3UH	
L102	1-408-413-00	INDUCTOR 22UH	
<TRANSISTOR>			
Q125	8-729-900-89	TRANSISTOR DTC144ES	
Q126	8-729-901-06	TRANSISTOR DTA144EK	
<RESISTOR>			
JR230	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR252	1-216-296-00	METAL GLAZE 0 5% 1/8W	
JR253	1-216-296-00	METAL GLAZE 0 5% 1/8W	
JR255	1-216-296-00	METAL GLAZE 0 5% 1/8W	
JR256	1-216-296-00	METAL GLAZE 0 5% 1/8W	
JR257	1-216-296-00	METAL GLAZE 0 5% 1/8W	
JR258	1-216-296-00	METAL GLAZE 0 5% 1/8W	
JR262	1-216-295-00	METAL GLAZE 0 5% 1/10W	
R101	1-216-025-00	METAL GLAZE 100 5% 1/10W	
R104	1-216-079-00	METAL GLAZE 18K 5% 1/10W	
R105	1-216-079-00	METAL GLAZE 18K 5% 1/10W	

REF.NO.	PART NO.	DESCRIPTION	REMARK
R107	1-216-295-00	METAL GLAZE 0 5% 1/10W	
R110	1-249-429-11	CARBON 10K 5% 1/4W	
R111	1-216-057-00	METAL GLAZE 2.2K 5% 1/10W	
R117	1-216-295-00	METAL GLAZE 0 5% 1/10W	
R118	1-216-085-00	METAL GLAZE 33K 5% 1/10W	
R158	1-249-409-11	CARBON 220 5% 1/4W	
R159	1-249-409-11	CARBON 220 5% 1/4W	
R193	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
<TUNER>			
TU101	$\Delta$ 1-465-515-11	TUNER (SUF944PLL)	
<IF BLOCK>			
VIF101	1-464-961-21	IF BLOCK (IFG-395)	
*****			
	*A-1638-011-A	C BOARD, COMPLETE	*****
	*4-379-160-01	COVER (REAR LID), CV	
	*4-379-167-01	COVER (MAIN), CV	
<CONNECTOR>			
C71	*1-506-371-00	PIN, CONNECTOR 2P	
C72	*1-568-881-51	PIN, CONNECTOR 6P	
C81	*1-568-878-51	PIN, CONNECTOR 3P	
C82	*1-508-765-00	PIN, CONNECTOR (5MM PITCH) 3P	
<CAPACITOR>			
C703	1-102-822-00	CERAMIC 390PF 5% 50V	
C704	1-102-116-00	CERAMIC 680PF 10% 50V	
C705	1-102-820-00	CERAMIC 330PF 5% 50V	
C706	1-102-116-00	CERAMIC 680PF 10% 50V	
C707	1-162-116-00	CERAMIC 680PF 10% 2KV	
C708	1-162-114-00	CERAMIC 0.0047MF 2KV	
C709	1-102-116-00	CERAMIC 680PF 10% 50V	
C710	1-123-947-00	ELECT 10MF 20% 250V	
C711	1-101-880-00	CERAMIC 47PF 5% 50V	
C712	1-102-820-00	CERAMIC 330PF 5% 50V	
C714	1-124-360-00	ELECT 1000MF 20% 16V	
C716	1-162-622-11	CERAMIC 330PF 10% 400V	
C717	1-102-114-00	CERAMIC 470PF 10% 50V	
C718	1-102-114-00	CERAMIC 470PF 10% 50V	
C719	1-102-114-00	CERAMIC 470PF 10% 50V	
<DIODE>			
D701	8-719-110-14	DIODE RD9.1ES-B3	
D702	8-719-911-19	DIODE 1SS119	
D703	8-719-911-19	DIODE 1SS119	
D704	8-719-911-19	DIODE 1SS119	
D705	8-719-911-19	DIODE 1SS119	
D706	8-719-911-19	DIODE 1SS119	
D707	8-719-911-19	DIODE 1SS119	
D708	8-719-911-19	DIODE 1SS119	
D709	8-719-911-19	DIODE 1SS119	
D710	8-719-911-19	DIODE 1SS119	
D711	8-719-300-33	DIODE RU-3AM	
D713	8-719-911-19	DIODE 1SS119	



C

D

REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
<JACK>				*****			
J701	1-526-990-11	SOCKET, PICTURE TUBE		A-1642-040-A	D BOARD, COMPLETE		
<COIL>				*****			
L704	1-410-878-11	INDUCTOR 33UH		*4-341-751-01	EYELET		
<TRANSISTOR>				*4-341-752-01	EYELET		
Q702	8-729-119-78	TRANSISTOR 2SC2785-HFE		<CONNECTOR>			
Q703	8-729-906-70	TRANSISTOR BF871		D1	*1-568-881-51	PIN, CONNECTOR 6P	
Q704	8-729-200-17	TRANSISTOR 2SA1091-0		D2	*1-568-882-51	PIN, CONNECTOR 7P	
Q705	8-729-119-78	TRANSISTOR 2SC2785-HFE		D11	*1-565-394-11	PIN, BOARD TO BOARD CONNECTOR	
Q706	8-729-906-70	TRANSISTOR BF871		D12	*1-565-394-11	PIN, BOARD TO BOARD CONNECTOR	
Q707	8-729-200-17	TRANSISTOR 2SA1091-0		D21	*1-565-394-11	PIN, BOARD TO BOARD CONNECTOR	
Q708	8-729-119-78	TRANSISTOR 2SC2785-HFE		D22	*1-565-394-11	PIN, BOARD TO BOARD CONNECTOR	
Q709	8-729-906-70	TRANSISTOR BF871		D31	*1-565-394-11	PIN, BOARD TO BOARD CONNECTOR	
Q710	8-729-200-17	TRANSISTOR 2SA1091-0		D32	*1-565-394-11	PIN, BOARD TO BOARD CONNECTOR	
<RESISTOR>				D33	*1-565-394-11	PIN, BOARD TO BOARD CONNECTOR	
R704	1-216-486-00	METAL OXIDE 8.2K 5% 3W F		D41	*1-566-367-11	CONNECTOR, HINGE (RECEPTACLE)	
R705	1-202-824-00	SOLID 3.3K 10% 1/2W		D44	*1-568-881-51	PIN, CONNECTOR 6P	
R706	1-249-409-11	CARBON 220 5% 1/4W		D45	*1-568-881-51	PIN, CONNECTOR 6P	
R707	1-249-412-11	CARBON 390 5% 1/4W		D51	*1-566-367-11	CONNECTOR, HINGE (RECEPTACLE)	
R708	1-249-401-11	CARBON 47 5% 1/4W		D62	*1-565-395-11	PIN, CONNECTOR 3P	
R709	1-202-844-00	SOLID 330K 10% 1/2W		D65	*1-508-765-00	PIN, CONNECTOR (5MM PITCH) 3P	
R710	1-215-465-00	METAL 68K 1% 1/4W		D66	*1-508-786-00	PIN, CONNECTOR (5MM PITCH) 2P	
R711	1-249-426-11	CARBON 5.6K 5% 1/4W		D82	*1-508-765-00	PIN, CONNECTOR (5MM PITCH) 3P	
R712	1-249-417-11	CARBON 1K 5% 1/4W		D83	*1-508-786-00	PIN, CONNECTOR (5MM PITCH) 2P	
R713	1-215-471-00	METAL 120K 1% 1/4W		D84	*1-568-536-11	PLUG (MINIATURE DY) 6P	
R714	1-216-486-00	METAL OXIDE 8.2K 5% 3W F		D801	*1-508-765-00	PIN, CONNECTOR (5MM PITCH) 3P	
R715	1-202-824-00	SOLID 3.3K 10% 1/2W		<CAPACITOR>			
R716	1-249-409-11	CARBON 220 5% 1/4W		C002	1-163-205-00	CERAMIC CHIP 0.001MF 5% 50V	
R717	1-249-415-11	CARBON 680 5% 1/4W		C003	1-124-925-11	ELECT 2.2MF 20% 50V	
R718	1-202-814-11	SOLID 33K 10% 1/2W		C004	1-124-120-11	ELECT 220MF 20% 16V	
R719	1-249-401-11	CARBON 47 5% 1/4W		C005	1-124-903-11	ELECT 1MF 20% 50V	
R720	1-249-423-11	CARBON 3.3K 5% 1/4W		C008	1-163-117-00	CERAMIC CHIP 100PF 5% 50V	
R721	1-202-842-11	SOLID 220K 10% 1/2W		C009	1-163-117-00	CERAMIC CHIP 100PF 5% 50V	
R722	1-202-848-00	SOLID 680K 10% 1/2W		C010	1-124-120-11	ELECT 220MF 20% 16V	
R723	1-249-417-11	CARBON 1K 5% 1/4W		C011	1-164-232-11	CERAMIC CHIP 0.01MF 50V	
R724	1-202-846-00	SOLID 470K 10% 1/2W		C013	1-137-098-11	FILM 0.1MF 10% 100V	
R725	1-202-838-00	SOLID 100K 10% 1/2W		C014	1-137-098-11	FILM 0.1MF 10% 100V	
R726	1-202-824-00	SOLID 3.3K 10% 1/2W		C015	1-124-902-00	ELECT 0.47MF 20% 50V	
R727	1-249-409-11	CARBON 220 5% 1/4W		C016	1-163-141-00	CERAMIC CHIP 0.001MF 5% 50V	
R728	1-216-347-11	METAL OXIDE 0.68 5% 1W F		C017	1-137-098-11	FILM 0.1MF 10% 100V	
R729	1-249-416-11	CARBON 820 5% 1/4W		C018	1-163-127-00	CERAMIC CHIP 270PF 5% 50V	
R730	1-249-401-11	CARBON 47 5% 1/4W		C019	1-137-094-11	FILM 0.047MF 10% 100V	
R731	1-249-423-11	CARBON 3.3K 5% 1/4W		C021	1-163-117-00	CERAMIC CHIP 100PF 5% 50V	
R732	1-249-415-11	CARBON 680 5% 1/4W		C023	1-163-117-00	CERAMIC CHIP 100PF 5% 50V	
R733	1-249-415-11	CARBON 680 5% 1/4W		C024	1-163-117-00	CERAMIC CHIP 100PF 5% 50V	
R734	1-249-405-11	CARBON 100 5% 1/4W		C027	1-124-910-11	ELECT 47MF 20% 50V	
R735	1-215-493-00	METAL 1M 1% 1/4W		C030	1-163-038-00	CERAMIC CHIP 0.1MF 25V	
R736	1-216-486-00	METAL OXIDE 8.2K 5% 3W F		C031	1-163-081-00	CERAMIC CHIP 0.22MF 25V	
R737	1-215-491-00	METAL 820K 1% 1/4W		C032	1-163-081-00	CERAMIC CHIP 0.22MF 25V	
R739	1-249-417-11	CARBON 1K 5% 1/4W		C033	1-163-181-00	CERAMIC CHIP 100PF 5% 50V	
<VARIABLE RESISTOR>				C034	1-163-038-00	CERAMIC CHIP 0.1MF 25V	
RV701	1-230-641-11	RES. ADJ. METAL GLAZE 2.2M		C251	1-124-903-11	ELECT 1MF 20% 50V	
RV702	1-230-619-11	RES. ADJ. METAL GLAZE 110M		C252	1-126-233-11	ELECT 22MF 20% 50V	
RV703	1-237-749-11	RES. ADJ. CARBON 2200		C253	1-163-009-11	CERAMIC CHIP 0.001MF 10% 50V	
RV704	1-237-749-11	RES. ADJ. CARBON 2200		C254	1-137-098-11	FILM 0.1MF 10% 100V	
				C255	1-124-636-00	ELECT 3300MF 20% 25V	
				C265	1-124-564-11	ELECT 4700MF 20% 25V	
				C274	1-137-035-11	FILM 0.47MF 10% 100V	
				C501	1-124-927-11	ELECT 4.7MF 20% 50V	



The components identified by shading and mark  $\Delta$  are critical for safety.  
Replace only with part number specified.

KV-M2521U  
RM-816

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REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
C502	1-124-927-11	ELECT	4.7MF	20%	50V		
C503	1-137-049-11	FILM	0.015MF	10%	400V		
C504	1-163-121-00	CERAMIC CHIP	150PF	5%	50V		
C505	1-108-794-11	MYLAR	0.0015MF	5%	50V		
C506	1-137-102-11	FILM	0.022MF	10%	250V		
C507	1-137-033-11	FILM	0.33MF	10%	100V		
C508	1-137-102-11	FILM	0.022MF	10%	250V		
C509	1-137-098-11	FILM	0.1MF	10%	100V		
C510	1-161-959-00	CERAMIC	22PF	10%	500V		
C511	1-108-686-11	MYLAR	0.0033MF	10%	100V		
C512	1-137-098-11	FILM	0.1MF	10%	100V		
C513	1-163-125-00	CERAMIC CHIP	220PF	5%	50V		
C514	1-137-031-11	FILM	0.22MF	10%	100V		
C515	1-124-903-11	ELECT	1MF	20%	50V		
C516	1-108-680-11	MYLAR	0.001MF	10%	100V		
C517	1-124-252-00	ELECT	0.33MF	20%	50V		
C518	1-124-902-00	ELECT	0.47MF	20%	50V		
C519	1-136-173-00	FILM	0.47MF	5%	50V		
C520	1-164-161-11	CERAMIC CHIP	0.0022MF	10%	50V		
C521	1-137-098-11	FILM	0.1MF	10%	100V		
C522	1-124-122-11	ELECT	100MF	20%	50V		
C523	1-108-680-11	MYLAR	0.001MF	10%	100V		
C524	1-108-798-11	MYLAR	0.0033MF	5%	50V		
C525	1-163-117-00	CERAMIC CHIP	100PF	5%	50V		
C526	1-163-103-00	CERAMIC CHIP	27PF	5%	50V		
C527	1-137-098-11	FILM	0.1MF	10%	100V		
C531	1-124-190-00	ELECT	680MF	10%	25V		
C532	1-124-122-11	ELECT	100MF	20%	50V		
C533	1-137-096-11	FILM	0.068MF	10%	100V		
C534	1-124-122-11	ELECT	100MF	20%	50V		
C536	1-131-365-00	TANTALUM	10MF	10%	16V		
C537	1-124-903-11	ELECT	1MF	20%	50V		
C538	1-108-680-11	MYLAR	0.001MF	10%	100V		
C539	1-163-129-00	CERAMIC CHIP	330PF	5%	50V		
C540	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V		
C592	1-124-122-11	ELECT	100MF	20%	50V		
C593	1-163-129-00	CERAMIC CHIP	330PF	5%	50V		
C601 $\Delta$	1-161-964-61	CERAMIC	0.0047MF		250V		
C602 $\Delta$	1-161-964-61	CERAMIC	0.0047MF		250V		
C603 $\Delta$	1-161-964-61	CERAMIC	0.0047MF		250V		
C604 $\Delta$	1-125-318-11	ELECT (BLOCK)	220MF	20%	400V		
C605	1-124-484-11	ELECT	220MF	20%	35V		
C606	1-163-137-00	CERAMIC CHIP	680PF	5%	50V		
C607	1-137-028-11	FILM	1MF	10%	63V		
C608	1-124-927-11	ELECT	4.7MF	20%	50V		
C611	1-124-910-11	ELECT	47MF	20%	50V		
C612	1-108-680-11	MYLAR	0.001MF	10%	100V		
C613	1-136-539-11	FILM	0.0022MF	3%	2KV		
C614	1-102-030-00	CERAMIC	330PF	10%	500V		
C615	1-128-142-11	ELECT	1500MF	20%	25V		
C616	1-102-030-00	CERAMIC	330PF	10%	500V		
C617	1-124-122-11	ELECT	100MF	20%	50V		
C618	1-162-115-00	CERAMIC	330PF	10%	2KV		
C619	1-124-556-11	ELECT	2200MF	20%	16V		
C620	1-136-173-00	FILM	0.47MF	5%	50V		
C621	1-124-347-00	ELECT	100MF	20%	160V		
C622	1-128-320-11	ELECT	2200MF	20%	16V		
C623	1-124-910-11	ELECT	47MF	20%	50V		
C624	1-124-122-11	ELECT	100MF	20%	50V		
C625	1-124-360-00	ELECT	1000MF	20%	16V		
C626	1-124-907-11	ELECT	10MF	20%	50V		
C627	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V		
C631	1-124-927-11	ELECT	4.7MF	20%	50V		
C632	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V		
C633	1-163-117-00	CERAMIC CHIP	100PF	5%	50V		
C801	1-126-105-11	ELECT	1000MF	20%	35V		
C802	1-102-030-00	CERAMIC	330PF	10%	500V		
C804	1-123-948-00	ELECT	22MF	20%	250V		
C805	1-162-114-00	CERAMIC	0.0047MF		2KV		
C806	1-137-098-11	FILM	0.1MF	10%	100V		
C807	1-106-395-00	MYLAR	0.15MF	10%	200V		
C810	1-123-024-21	ELECT	33MF		160V		
C811	1-136-113-00	FILM	2MF	5%	200V		
C812	1-124-634-11	ELECT	1MF	20%	250V		
C813	1-102-212-00	CERAMIC	820PF	10%	500V		
C814 $\Delta$	1-161-731-51	CERAMIC	0.001MF	10%	2KV		
C815	1-136-111-00	FILM	1MF	5%	200V		
C817 $\Delta$	1-136-565-11	FILM	0.015MF	3%	1.4KV		
C818 $\Delta$	1-129-721-51	FILM	0.039MF	10%	630V		
C819 $\Delta$	1-161-731-51	CERAMIC	0.001MF	10%	2KV		
C820 $\Delta$	1-137-046-91	FILM	0.0082MF	10%	400V		
C821 $\Delta$	1-162-116-51	CERAMIC	680PF	10%	2KV		
C822	1-163-005-11	CERAMIC CHIP	470PF	10%	50V		
C823	1-137-043-11	FILM	0.0047MF	10%	400V		
C824	1-102-212-00	CERAMIC	820PF	10%	500V		
C825	1-137-102-11	FILM	0.022MF	10%	250V		
C1602 $\Delta$	1-136-516-11	FILM	0.1MF	20%	300V		
C1605 $\Delta$	1-164-246-51	CERAMIC	0.0022MF	20%	400V		
C1607 $\Delta$	1-161-964-61	CERAMIC	0.0047MF		250V		
<FILTER>							
CF001	1-577-364-11	VIBRATOR, CERAMIC					
CF501	1-567-888-11	OSCILLATOR, CERAMIC					
<DIODE>							
D003	8-719-911-19	DIODE 1SS119					
D005	8-719-109-89	DIODE RD5.6ES-B2					
D006	8-719-982-24	DIODE MTZJ-33A					
D007	8-719-982-08	DIODE MTZJ-3.9B					
D009	8-719-109-89	DIODE RD5.6ES-B2					
D010	8-719-921-54	DIODE MTZJ-6.2B					
D011	8-719-921-54	DIODE MTZJ-6.2B					
D012	8-719-911-19	DIODE 1SS119					
D013	8-719-109-97	DIODE RD6.8ES-B2					
D271	8-719-110-31	DIODE RD12ES-B2					
D272	8-719-911-19	DIODE 1SS119					
D501	8-719-911-19	DIODE 1SS119					
D504	8-719-911-55	DIODE U05G					
D506	8-719-800-76	DIODE 1SS226					
D508	8-719-911-19	DIODE 1SS119					
D509	8-719-911-19	DIODE 1SS119					
D511	8-719-911-55	DIODE U05G					
D512	8-719-911-55	DIODE U05G					
D513	8-719-010-34	DIODE UZ-4.7BSC					
D601 $\Delta$	8-719-510-63	DIODE D4SB60L-F					
D602	8-719-300-33	DIODE RU-3AM					
D603	8-719-911-55	DIODE U05G					
D604	8-719-911-55	DIODE U05G					
D605	8-719-911-55	DIODE U05G					
D606	8-719-300-33	DIODE RU-3AM					
D607	8-719-300-33	DIODE RU-3AM					
D608	8-719-300-33	DIODE RU-3AM					
D609	8-719-982-24	DIODE MTZJ-33A					
D610	8-719-300-59	DIODE CTU-12S					
D611	8-719-900-26	DIODE ERD29-08J					



D

The components identified by shading and mark  $\Delta$  are critical for safety.  
Replace only with part number specified.

REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
D612	8-719-300-59	DIODE CTU-12S				<IC LINK>	
D613	8-719-979-85	DIODE EGP20G		PS601A	1-532-984-91	LINK, IC (ICP-N50) 2A	
D614	8-719-979-85	DIODE EGP20G		PS602A	1-532-984-91	LINK, IC (ICP-N50) 2A	
D616	8-719-921-54	DIODE MTZJ-6.2B		PS603A	1-532-679-91	LINK, IC (ICP-N15) 0.6A	
D617	8-719-911-19	DIODE ISS119		PS604A	1-532-984-91	LINK, IC (ICP-N50) 2A	
D618	8-719-109-89	DIODE RD5.6ES-B2				<TRANSISTOR>	
D619	8-719-982-24	DIODE MTZJ-33A		Q001	8-729-901-01	TRANSISTOR DTC144EK	
D620	8-719-800-76	DIODE ISS226		Q002	8-729-901-01	TRANSISTOR DTC144EK	
D621	8-719-982-24	DIODE MTZJ-33A		Q003	8-729-216-22	TRANSISTOR 2SA1162-G	
D622	8-719-911-19	DIODE ISS119		Q004	8-729-216-22	TRANSISTOR 2SA1162-G	
D623	8-719-911-19	DIODE ISS119		Q005	8-729-901-01	TRANSISTOR DTC144EK	
D624	8-719-911-19	DIODE ISS119		Q006	8-729-901-01	TRANSISTOR DTC144EK	
D630	8-719-921-91	DIODE MTZJ-15A		Q007	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
D801	8-719-300-33	DIODE RU-3AM		Q008	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
D802	8-719-300-33	DIODE RU-3AM		Q009	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
D803	8-719-976-64	DIODE RGP02-17		Q010	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
D804	8-719-911-55	DIODE U05G		Q251	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
D805	8-719-911-55	DIODE U05G		Q271	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
D806	8-719-945-80	DIODE ERC06-15S		Q502	8-729-216-22	TRANSISTOR 2SA1162-G	
D807	8-719-945-80	DIODE ERC06-15S		Q505	8-729-140-96	TRANSISTOR 2SD774-34	
D808	8-719-900-26	DIODE ERD29-08J		Q506	8-729-140-97	TRANSISTOR 2SB734-34	
		<IC>		Q507	8-729-216-22	TRANSISTOR 2SA1162-G	
IC001	8-759-515-80	IC SDA20560-A008		Q598	8-729-216-22	TRANSISTOR 2SA1162-G	
IC002	8-759-208-06	IC TC4051BPHB		Q601	8-729-122-03	TRANSISTOR 2SA1220A-P	
IC003	8-759-945-58	IC RC4558P		Q602	8-729-209-02	TRANSISTOR 2SD1548-LB	
IC005	8-759-748-56	IC SDA2546			*4-368-683-01	SPRING; Q602	
IC251	8-759-988-94	IC TDA2050		Q603	8-729-122-03	TRANSISTOR 2SA1220A-P	
	4-200-001-01	HOLDER, IC; IC251		Q604	8-729-216-22	TRANSISTOR 2SA1162-G	
	4-201-023-01	SPACER, INSULATING; IC251		Q605	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
	4-812-134-00	RIVET NYLON, 3.5; IC251		Q606	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
IC501	8-759-970-73	IC TEA2028B		Q607	8-729-920-92	TRANSISTOR 2SD2096-EF	
IC502	8-759-944-57	IC TDA8170		Q608	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
	4-200-001-01	HOLDER, IC; IC502		Q609	8-729-320-62	TRANSISTOR 2SD789-34	
IC601	8-759-988-95	IC TEA2260		Q801	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
IC604	8-759-510-52	IC TEA7605		Q804	8-729-304-50	TRANSISTOR 2SD1941-06	
IC608	8-759-929-62	IC LM7812CT			*4-368-683-01	SPRING; Q804	
	*4-368-683-01	SPRING; IC608		Q805	8-729-119-80	TRANSISTOR 2SC2688-LK	
		<COIL>				<RESISTOR>	
L501	1-408-225-00	INDUCTOR 3.3UH		JR1	1-216-296-00	METAL GLAZE 0 5% 1/8W	
L601	*1-420-872-00	COIL, AIR CORE		JR3	1-216-296-00	METAL GLAZE 0 5% 1/8W	
L602	1-410-396-41	FERRITE BEAD INDUCTOR		JR4	1-216-295-00	METAL GLAZE 0 5% 1/10W	
L603	1-410-396-41	FERRITE BEAD INDUCTOR		JR7	1-216-296-00	METAL GLAZE 0 5% 1/8W	
L604	1-410-671-31	INDUCTOR 47UH		R001	1-216-041-00	METAL GLAZE 470 5% 1/10W	
L605	1-459-585-11	COIL (WITH CORE) (DRUM TYPE)		R002	1-216-041-00	METAL GLAZE 470 5% 1/10W	
L606	1-421-013-00	COIL (HORIZONTAL CHOKE) 25UH		R003	1-216-198-00	METAL GLAZE 1K 5% 1/8W	
L607	1-410-671-31	INDUCTOR 47UH		R004	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
L803	1-459-104-00	COIL, DUST CORE		R005	1-216-081-00	METAL GLAZE 22K 5% 1/10W	
L804	1-408-239-00	INDUCTOR 4.7MMH		R006	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
L805	1-459-755-11	COIL, HORIZONTAL LINEARITY		R007	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W	
L806	1-459-111-00	COIL, DRAM CORE (CD1)		R008	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
L809	*1-420-872-00	COIL, AIR CORE		R009	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
L810	1-421-982-11	PMC		R010	1-216-041-00	METAL GLAZE 470 5% 1/10W	
		<TRANSFORMER>		R012	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
LF1601A	1-421-862-11	LFT		R013	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
T601	$\Delta$ 1-450-038-11	S.R.T		R014	1-216-085-00	METAL GLAZE 33K 5% 1/10W	
T602	$\Delta$ 1-424-277-11	TRANSFORMER, TRIGGER PULSE		R015	1-216-061-00	METAL GLAZE 3.3K 5% 1/10W	
T801	$\Delta$ 1-437-090-21	HDT		R016	1-216-085-00	METAL GLAZE 33K 5% 1/10W	
T802	$\Delta$ 1-439-416-51	TRANSFORMER ASSY, FLYBACK (UX-1650)		R017	1-216-748-11	METAL GLAZE 39K 5% 1/10W	



D

REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
R018	1-216-095-00	METAL GLAZE	82K 5% 1/10W	R085	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R019	1-216-025-00	METAL GLAZE	100 5% 1/10W	R086	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R020	1-216-025-00	METAL GLAZE	100 5% 1/10W	R087	1-216-035-00	METAL GLAZE	270 5% 1/10W
R021	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R088	1-216-059-00	METAL GLAZE	2.7K 5% 1/10W
R022	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R093	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R024	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R094	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R025	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R095	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R026	1-216-182-00	METAL GLAZE	220 5% 1/8W	R096	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R027	1-216-025-00	METAL GLAZE	100 5% 1/10W	R098	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R028	1-216-025-00	METAL GLAZE	100 5% 1/10W	R251	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W
R029	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R252	1-216-039-00	METAL GLAZE	390 5% 1/10W
R030	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R253	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R031	1-216-081-00	METAL GLAZE	22K 5% 1/10W	R254	1-216-357-00	METAL OXIDE	4.7 5% 1W F
R032	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R255	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R033	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R256	1-216-115-00	METAL GLAZE	560K 5% 1/10W
R034	1-216-077-00	METAL GLAZE	15K 5% 1/10W	R257	1-216-077-00	METAL GLAZE	15K 5% 1/10W
R035	1-216-081-00	METAL GLAZE	22K 5% 1/10W	R258	1-215-869-11	METAL OXIDE	1K 5% 1W F
R036	1-216-083-00	METAL GLAZE	27K 5% 1/10W	R259	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W
R037	1-216-069-00	METAL GLAZE	6.8K 5% 1/10W	R268	1-215-869-11	METAL OXIDE	1K 5% 1W F
R038	1-216-069-00	METAL GLAZE	6.8K 5% 1/10W	R271	1-216-045-00	METAL GLAZE	680 5% 1/10W
R039	1-216-081-00	METAL GLAZE	22K 5% 1/10W	R272	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R040	1-216-077-00	METAL GLAZE	15K 5% 1/10W	R273	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R041	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R274	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R042	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R500	1-216-115-00	METAL GLAZE	560K 5% 1/10W
R043	1-216-041-00	METAL GLAZE	470 5% 1/10W	R501	1-216-041-00	METAL GLAZE	470 5% 1/10W
R044	1-216-097-00	METAL GLAZE	100K 5% 1/10W	R502	1-216-033-00	METAL GLAZE	220 5% 1/10W
R045	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W	R503	1-216-035-00	METAL GLAZE	270 5% 1/10W
R046	1-216-095-00	METAL GLAZE	82K 5% 1/10W	R504	1-249-420-11	CARBON	1.8K 5% 1/4W
R047	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R505	1-216-077-00	METAL GLAZE	15K 5% 1/10W
R048	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R506	1-216-071-00	METAL GLAZE	8.2K 5% 1/10W
R049	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R509	1-216-063-00	METAL GLAZE	3.9K 5% 1/10W
R050	1-216-067-00	METAL GLAZE	5.6K 5% 1/10W	R510	1-216-067-00	METAL GLAZE	5.6K 5% 1/10W
R051	1-216-041-00	METAL GLAZE	470 5% 1/10W	R514	1-216-033-00	METAL GLAZE	220 5% 1/10W
R052	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R515	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W
R053	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R517	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R054	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R518	1-216-089-00	METAL GLAZE	47K 5% 1/10W
R055	1-216-037-00	METAL GLAZE	330 5% 1/10W	R519	1-216-081-00	METAL GLAZE	22K 5% 1/10W
R056	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R520	1-216-037-00	METAL GLAZE	330 5% 1/10W
R057	1-216-025-00	METAL GLAZE	100 5% 1/10W	R521	1-216-025-00	METAL GLAZE	100 5% 1/10W
R058	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R522	1-215-469-00	METAL	100K 1% 1/4W
R059	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R523	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R060	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R524	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W
R061	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R525	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R062	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R526	1-249-409-11	CARBON	220 5% 1/4W F
R063	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R527	1-216-077-00	METAL GLAZE	15K 5% 1/10W
R064	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R528	1-216-031-00	METAL GLAZE	180 5% 1/10W
R065	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R529	1-216-069-00	METAL GLAZE	6.8K 5% 1/10W
R066	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R530	1-249-448-11	CARBON	1.2 5% 1/4W F
R067	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R531	1-216-099-00	METAL GLAZE	120K 5% 1/10W
R068	1-216-174-00	METAL GLAZE	100 5% 1/8W	R532	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R069	1-216-174-00	METAL GLAZE	100 5% 1/8W	R533	1-216-295-00	METAL GLAZE	0 5% 1/10W
R070	1-216-198-00	METAL GLAZE	1K 5% 1/8W	R534	1-216-119-00	METAL GLAZE	820K 5% 1/10W
R071	1-216-198-00	METAL GLAZE	1K 5% 1/8W	R535	1-249-749-00	CARBON	2.2M 5% 1/4W
R072	1-216-222-00	METAL GLAZE	10K 5% 1/8W	R536	1-216-129-00	METAL GLAZE	2.2M 5% 1/10W
R073	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R537	1-216-083-00	METAL GLAZE	27K 5% 1/10W
R075	1-216-041-00	METAL GLAZE	470 5% 1/10W	R538	1-216-101-00	METAL GLAZE	150K 5% 1/10W
R076	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R539	1-216-101-00	METAL GLAZE	150K 5% 1/10W
R077	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R540	1-216-013-00	METAL GLAZE	33 5% 1/10W
R078	1-216-198-00	METAL GLAZE	1K 5% 1/8W	R541	1-216-091-00	METAL GLAZE	56K 5% 1/10W
R079	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R542	1-216-308-00	METAL GLAZE	4.7 5% 1/10W
R080	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R543	1-249-451-11	CARBON	2.2 5% 1/4W
R081	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R544	1-247-745-11	CARBON	330 5% 1/2W
R083	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R545	1-216-081-00	METAL GLAZE	22K 5% 1/10W
R084	1-216-049-00	METAL GLAZE	1K 5% 1/10W				



D

V

The components identified by shading and mark  $\Delta$  are critical for safety.  
Replace only with part number specified.

REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
R546	1-216-083-00	METAL GLAZE	27K 5% 1/10W	R816	1-215-868-00	METAL OXIDE	680 5% 1W F
R547	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W	R817	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R548	1-216-349-00	METAL OXIDE	1 5% 1W F	R820	1-249-403-11	CARBON	68 5% 1/4W
R549	1-216-454-11	METAL OXIDE	390 5% 2W F	R821	1-247-725-11	CARBON	10K 5% 1/4W F
R550	1-216-095-00	METAL GLAZE	82K 5% 1/10W	R822	1-217-778-11	FUSIBLE	1K 5% 1W F
R551	1-216-129-00	METAL GLAZE	2.2M 5% 1/10W	R825	1-216-345-11	METAL OXIDE	0.47 5% 1W F
R553	1-215-869-11	METAL OXIDE	1K 5% 1W	R826	1-216-097-00	METAL GLAZE	100K 5% 1/10W
R554	1-216-037-00	METAL GLAZE	330 5% 1/10W	R827	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R555	1-216-129-00	METAL GLAZE	2.2M 5% 1/10W	R828	1-216-059-00	METAL GLAZE	2.7K 5% 1/10W
R556	1-216-025-00	METAL GLAZE	100 5% 1/10W	R829	1-216-051-00	METAL GLAZE	1.2K 5% 1/10W
R557	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R831	1-249-451-11	CARBON	2.2 5% 1/4W
R558	1-216-113-00	METAL GLAZE	470K 5% 1/10W	R1602A	1-244-945-91	CARBON	1M 5% 1/2W
R559	1-216-069-00	METAL GLAZE	6.8K 5% 1/10W	R1603A	1-217-328-11	WIREWOUND	2.7 10% 7W F
R560	1-216-037-00	METAL GLAZE	330 5% 1/10W	R1605A	1-218-265-91	METAL GLAZE	8.2M 5% 1W
R591	1-216-047-00	METAL GLAZE	820 5% 1/10W	R5501	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R592	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R5503	1-216-308-00	METAL GLAZE	4.7 5% 1/10W
R593	1-216-053-00	METAL GLAZE	1.5K 5% 1/10W	R5504	1-216-121-00	METAL GLAZE	1M 5% 1/10W
R594	1-216-071-00	METAL GLAZE	8.2K 5% 1/10W	R5505	1-216-001-00	METAL GLAZE	10 5% 1/10W
R597	1-216-041-00	METAL GLAZE	470 5% 1/10W				
R598	1-215-900-11	METAL OXIDE	22K 5% 2W F			<VARIABLE RESISTOR>	
R600	1-249-381-11	CARBON	1 5% 1/4W	RV501	1-238-013-11	RES, ADJ, CARBON 2.2K	
R601	1-216-353-00	METAL OXIDE	2.2 5% 1W F	RV502	1-238-016-11	RES, ADJ, CARBON 10K	
R603	1-216-469-11	METAL OXIDE	12 5% 3W F	RV601	1-238-011-11	RES, ADJ, CARBON 470	
R604	1-216-025-00	METAL GLAZE	100 5% 1/10W			<SPARK GAP>	
R605	1-216-081-00	METAL GLAZE	22K 5% 1/10W	SG801	1-519-422-11	GAP, SPARK	
R606	1-216-051-00	METAL GLAZE	1.2K 5% 1/10W			<THERMISTOR>	
R607	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	THP601A	1-808-059-32	THERMISTOR, POSITIVE	
R608	1-216-488-11	METAL OXIDE	18K 5% 3W F			*****	
R609	1-216-007-00	METAL GLAZE	18 5% 1/10W			A-1645-015-A V BOARD, COMPLETE	
R610	1-244-941-00	CARBON	680K 5% 1/2W			*****	
R611	1-216-015-00	METAL GLAZE	39 5% 1/10W			<CAPACITOR>	
R612	1-216-049-00	METAL GLAZE	1K 5% 1/10W	C1	1-126-101-11	ELECT 100MF	20% 16V
R613	1-216-097-00	METAL GLAZE	100K 5% 1/10W	C2	1-163-038-00	CERAMIC CHIP 0.1MF	25V
R614	1-205-758-11	WIREWOUND	100 10% 10W F	C3	1-124-120-11	ELECT 220MF	20% 16V
R616	1-216-099-00	METAL GLAZE	120K 5% 1/10W	C4	1-163-077-00	CERAMIC CHIP 0.1MF	50V
R617	1-216-037-00	METAL GLAZE	330 5% 1/10W	C5	1-124-120-11	ELECT 220MF	20% 16V
R618	1-216-431-11	METAL OXIDE	560 5% 1W F	C6	1-163-038-00	CERAMIC CHIP 0.1MF	25V
R619	1-216-073-00	METAL GLAZE	10K 5% 1/10W	C7	1-163-235-11	CERAMIC CHIP 22PF	5% 50V
R620	1-216-081-00	METAL GLAZE	22K 5% 1/10W	C8	1-163-235-11	CERAMIC CHIP 22PF	5% 50V
R621	1-216-077-00	METAL GLAZE	15K 5% 1/10W	C9	1-163-235-11	CERAMIC CHIP 22PF	5% 50V
R622	1-216-073-00	METAL GLAZE	10K 5% 1/10W	C10	1-163-038-00	CERAMIC CHIP 0.1MF	25V
R623	1-216-081-00	METAL GLAZE	22K 5% 1/10W	C11	1-163-038-00	CERAMIC CHIP 0.1MF	25V
R624	1-216-067-00	METAL GLAZE	5.6K 5% 1/10W	C12	1-163-038-00	CERAMIC CHIP 0.1MF	25V
R625	1-215-865-11	METAL OXIDE	220 5% 1W F	C13	1-163-038-00	CERAMIC CHIP 0.1MF	25V
R626	1-216-037-00	METAL GLAZE	330 5% 1/10W	C14	1-124-927-11	ELECT 4.7MF	20% 50V
R628	1-216-001-00	METAL GLAZE	10 5% 1/10W	C15	1-124-927-11	ELECT 4.7MF	20% 50V
R629	1-216-037-00	METAL GLAZE	330 5% 1/10W	C16	1-163-141-00	CERAMIC CHIP 0.001MF	5% 50V
R633	1-216-049-00	METAL GLAZE	1K 5% 1/10W	C17	1-163-141-00	CERAMIC CHIP 0.001MF	5% 50V
R634	1-216-430-11	METAL OXIDE	390 5% 1W F	C18	1-163-141-00	CERAMIC CHIP 0.001MF	5% 50V
R635	1-216-073-00	METAL GLAZE	10K 5% 1/10W	C26	1-163-038-00	CERAMIC CHIP 0.1MF	25V
R636	1-216-073-00	METAL GLAZE	10K 5% 1/10W	C27	1-163-117-00	CERAMIC CHIP 100PF	5% 50V
R637	1-215-863-11	METAL OXIDE	100 5% 1W F	C28	1-163-117-00	CERAMIC CHIP 100PF	5% 50V
R643	1-217-189-21	WIREWOUND	0.12 5% 2W F	C29	1-163-117-00	CERAMIC CHIP 100PF	5% 50V
R651	1-216-025-00	METAL GLAZE	100 5% 1/10W	C32	1-163-038-00	CERAMIC CHIP 0.1MF	25V
R653	1-205-758-11	WIREWOUND	100 10% 10W F	C33	1-163-038-00	CERAMIC CHIP 0.1MF	25V
R802	1-249-443-11	CARBON	0.47 5% 1/4W F				
R805	1-249-448-11	CARBON	1.2 5% 1/4W F				
R806	1-216-093-00	METAL GLAZE	68K 5% 1/10W				
R807	1-215-869-11	METAL OXIDE	1K 5% 1W F				
R809	1-202-821-11	SOLID	1.8K 10% 1/2W				
R810	1-202-818-00	SOLID	1K 10% 1/2W				
R811	1-215-882-00	METAL OXIDE	22 5% 2W F				
R812	1-249-494-11	CARBON	68K 5% 1/2W				
R815	1-215-884-11	METAL OXIDE	47 5% 2W F				



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REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
<CONNECTOR>				JR210	1-216-295-00	METAL GLAZE 0 5% 1/10W	
CNV1	*1-565-393-11	CONNECTOR, BOARD TO BOARD		JR212	1-216-296-00	METAL GLAZE 0 5% 1/8W	
CNV2	*1-565-393-11	CONNECTOR, BOARD TO BOARD		JR214	1-216-295-00	METAL GLAZE 0 5% 1/10W	
<DIODE>				JR215	1-216-295-00	METAL GLAZE 0 5% 1/10W	
D1	8-719-105-91	DIODE RD5.6M-B2		JR216	1-216-295-00	METAL GLAZE 0 5% 1/10W	
D3	8-719-914-44	DIODE DAP202K		JR217	1-216-295-00	METAL GLAZE 0 5% 1/10W	
D4	8-719-400-18	DIODE MA152WK		JR218	1-216-295-00	METAL GLAZE 0 5% 1/10W	
D5	8-719-914-44	DIODE DAP202K		JR227	1-216-295-00	METAL GLAZE 0 5% 1/10W	
D6	8-719-400-18	DIODE MA152WK		R1	1-218-326-11	METAL GLAZE 470 5% 1/2W	
D7	8-719-105-52	DIODE RD3.6M-B2		R2	1-216-214-00	METAL GLAZE 4.7K 5% 1/8W	
D9	8-719-106-17	DIODE RD6.8M-B2		R3	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
<IC>				R4	1-216-025-00	METAL GLAZE 100 5% 1/10W	
IC1	8-759-513-27	IC MAB8461P-W208		R5	1-216-047-00	METAL GLAZE 820 5% 1/10W	
IC2	8-759-510-46	IC SAAS246P/E		R6	1-216-001-00	METAL GLAZE 10 5% 1/10W	
IC3	8-759-510-49	IC FCB61C65-70P		R7	1-216-083-00	METAL GLAZE 27K 5% 1/10W	
<COIL>				R8	1-216-071-00	METAL GLAZE 8.2K 5% 1/10W	
L1	1-408-403-00	INDUCTOR 3.3UH		R9	1-216-308-00	METAL GLAZE 4.7 5% 1/10W	
L2	1-408-407-00	INDUCTOR 6.8UH		R10	1-218-325-11	METAL GLAZE 120 5% 1/4W	
L3	1-408-407-00	INDUCTOR 6.8UH		R11	1-218-325-11	METAL GLAZE 120 5% 1/4W	
L4	1-408-407-00	INDUCTOR 6.8UH		R12	1-218-325-11	METAL GLAZE 120 5% 1/4W	
<IC LINK>				R13	1-216-025-00	METAL GLAZE 100 5% 1/10W	
PS1	$\Delta$ 1-532-679-91	LINK, IC (ICP-N15) 0.6A		R14	1-216-001-00	METAL GLAZE 10 5% 1/10W	
<TRANSISTOR>				R15	1-216-013-00	METAL GLAZE 33 5% 1/10W	
Q1	8-729-900-53	TRANSISTOR DTC114EK		R16	1-216-013-00	METAL GLAZE 33 5% 1/10W	
Q2	8-729-920-92	TRANSISTOR 2SD2096-EF		R17	1-216-013-00	METAL GLAZE 33 5% 1/10W	
Q3	8-729-120-28	TRANSISTOR 2SC1623-L5L6		R18	1-216-025-00	METAL GLAZE 100 5% 1/10W	
Q4	8-729-120-28	TRANSISTOR 2SC1623-L5L6		R19	1-216-025-00	METAL GLAZE 100 5% 1/10W	
Q5	8-729-807-87	TRANSISTOR 2SB1295-UL6		R20	1-216-041-00	METAL GLAZE 470 5% 1/10W	
Q6	8-729-807-87	TRANSISTOR 2SB1295-UL6		R21	1-216-041-00	METAL GLAZE 470 5% 1/10W	
Q7	8-729-807-87	TRANSISTOR 2SB1295-UL6		R22	1-216-168-00	METAL GLAZE 56 5% 1/8W	
Q8	8-729-120-28	TRANSISTOR 2SC1623-L5L6		R23	1-216-214-00	METAL GLAZE 4.7K 5% 1/8W	
<RESISTOR>				R24	1-216-055-00	METAL GLAZE 1.8K 5% 1/10W	
JR01	1-216-295-00	METAL GLAZE 0 5% 1/10W		R25	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W	
JR02	1-216-295-00	METAL GLAZE 0 5% 1/10W		R26	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
JR03	1-216-295-00	METAL GLAZE 0 5% 1/10W		R29	1-216-121-00	METAL GLAZE 1M 5% 1/10W	
JR08	1-216-295-00	METAL GLAZE 0 5% 1/10W		R30	1-216-061-00	METAL GLAZE 3.3K 5% 1/10W	
JR09	1-216-295-00	METAL GLAZE 0 5% 1/10W		R31	1-216-069-00	METAL GLAZE 6.8K 5% 1/10W	
JR11	1-216-295-00	METAL GLAZE 0 5% 1/10W		R32	1-216-076-00	METAL GLAZE 13K 5% 1/10W	
JR14	1-216-296-00	METAL GLAZE 0 5% 1/8W		R33	1-216-083-00	METAL GLAZE 27K 5% 1/10W	
JR17	1-216-295-00	METAL GLAZE 0 5% 1/10W		R34	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W	
JR18	1-216-296-00	METAL GLAZE 0 5% 1/8W		R35	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W	
JR21	1-216-296-00	METAL GLAZE 0 5% 1/8W		R36	1-216-057-00	METAL GLAZE 2.2K 5% 1/10W	
JR23	1-216-295-00	METAL GLAZE 0 5% 1/10W		R37	1-216-057-00	METAL GLAZE 2.2K 5% 1/10W	
JR24	1-216-296-00	METAL GLAZE 0 5% 1/8W		R38	1-216-057-00	METAL GLAZE 2.2K 5% 1/10W	
JR25	1-216-296-00	METAL GLAZE 0 5% 1/8W		R39	1-216-057-00	METAL GLAZE 2.2K 5% 1/10W	
JR202	1-216-295-00	METAL GLAZE 0 5% 1/10W		R40	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W	
JR203	1-216-295-00	METAL GLAZE 0 5% 1/10W		R41	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W	
JR205	1-216-295-00	METAL GLAZE 0 5% 1/10W		R42	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
JR206	1-216-295-00	METAL GLAZE 0 5% 1/10W		R44	1-216-061-00	METAL GLAZE 3.3K 5% 1/10W	
JR209	1-216-295-00	METAL GLAZE 0 5% 1/10W		R46	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W	
<VARIABLE RESISTOR>				R47	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W	
RV1	1-238-012-11	RES, ADJ, CARBON 1K		R48	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W	
<CRYSTAL>				R49	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
X1	1-579-266-21	CRYSTAL VIBRATOR		R50	1-216-296-00	METAL GLAZE 0 5% 1/8W	
X3	1-577-082-11	VIBRATOR, CERAMIC					



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H2

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REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
*****				C221	1-108-686-11	MYLAR	0.0033MF 10% 100V
*****				C222	1-137-095-11	FILM	0.056MF 10% 100V
*****				C223	1-137-095-11	FILM	0.056MF 10% 100V
*****				C224	1-137-047-11	FILM	0.01MF 10% 400V
*1-638-391-11	H1 BOARD	*****		C225	1-136-173-00	FILM	0.47MF 5% 50V
<CONNECTOR>				C226	1-136-173-00	FILM	0.47MF 5% 50V
H1-1	*1-568-881-51	PIN, CONNECTOR 6P		C227	1-137-102-11	FILM	0.022MF 10% 250V
H1-2	1-565-640-11	JACK, PIN 1P		C228	1-137-104-11	FILM	0.033MF 10% 250V
H1-3	1-565-639-11	JACK, PIN 1P		C229	1-137-049-11	FILM	0.015MF 10% 400V
H1-4	*1-568-879-51	PIN, CONNECTOR 4P		C230	1-137-049-11	FILM	0.015MF 10% 400V
H1-05	1-562-837-11	JACK		C232	1-124-907-11	ELECT	10MF 20% 50V
H1-6	1-565-666-12	TERMINAL, S 4P		C234	1-163-005-11	CERAMIC CHIP	470PF 10% 50V
H1-23	*1-568-879-51	PIN, CONNECTOR 4P		C235	1-163-005-11	CERAMIC CHIP	470PF 10% 50V
H1-43	*1-564-512-11	PLUG, CONNECTOR 9P		C237	1-124-902-00	ELECT	0.47MF 20% 50V
<RESISTOR>				C238	1-163-125-00	CERAMIC CHIP	220PF 5% 50V
R1651	1-249-405-11	CARBON	100 5% 1/4W	C239	1-126-103-11	ELECT	470MF 20% 16V
R1652	1-249-405-11	CARBON	100 5% 1/4W	C241	1-163-018-00	CERAMIC CHIP	0.0056MF 10% 50V
<SWITCH>				C243	1-163-033-00	CERAMIC CHIP	0.022MF 50V
S1651	1-571-532-21	SWITCH, TACTIL		C245	1-163-033-00	CERAMIC CHIP	0.022MF 50V
S1652	1-571-532-21	SWITCH, TACTIL		C1407	1-124-910-11	ELECT	47MF 20% 50V
S1653	1-571-532-21	SWITCH, TACTIL		C1408	1-124-122-11	ELECT	100MF 20% 50V
*****				C1409	1-126-233-11	ELECT	22MF 20% 50V
*****				C1410	1-124-907-11	ELECT	10MF 20% 50V
*1-638-392-11	H2 BOARD	*****		C1414	1-124-907-11	ELECT	10MF 20% 50V
*4-374-987-01	GUIDE, LIGHT			C1415	1-124-902-00	ELECT	0.47MF 20% 50V
*4-381-686-01	BRACKET (B), LIGHT GUIDE			C1416	1-124-902-00	ELECT	0.47MF 20% 50V
<DIODE>				C1417	1-124-120-11	ELECT	220MF 20% 16V
D1654	8-719-948-31	DIODE LD-201VR		C1418	1-163-003-11	CERAMIC CHIP	330PF 10% 50V
*4-387-825-01	HOLDER, LED; D1654			C1419	1-163-003-11	CERAMIC CHIP	330PF 10% 50V
<CONNECTOR>				C1425	1-124-902-00	ELECT	0.47MF 20% 50V
H2-2	*1-564-522-11	PLUG, CONNECTOR 7P		C1427	1-136-017-00	CERAMIC CHIP	0.0047MF 50V
<IC>				C1428	1-136-017-00	CERAMIC CHIP	0.0047MF 50V
IC1651	8-741-101-75	IC SBX1610-11		C1431	1-126-529-11	ELECT	0.47MF 20% 50V
<RESISTOR>				C1432	1-124-902-00	ELECT	0.47MF 20% 50V
R1662	1-249-413-11	CARBON	470 5% 1/4W	C1433	1-124-122-11	ELECT	100MF 20% 50V
*****				C1438	1-137-047-11	FILM	0.01MF 10% 400V
*****				C1440	1-124-907-11	ELECT	10MF 20% 50V
A-1651-021-A	J1 BOARD, COMPLETE	*****		C1441	1-124-907-11	ELECT	10MF 20% 50V
<CAPACITOR>				C1442	1-137-098-11	FILM	0.1MF 10% 100V
C207	1-124-927-11	ELECT	4.7MF 20% 50V	C1444	1-124-910-11	ELECT	47MF 20% 50V
C213	1-126-233-11	ELECT	22MF 20% 50V	C1445	1-102-824-00	CERAMIC	470PF 5% 50V
C214	1-137-045-11	FILM	0.0068MF 10% 400V	C1501	1-124-927-11	ELECT	4.7MF 20% 50V
C218	1-137-102-11	FILM	0.022MF 10% 250V	C1502	1-124-903-11	ELECT	1MF 20% 50V
C219	1-137-102-11	FILM	0.022MF 10% 250V	C1503	1-108-680-11	MYLAR	0.001MF 10% 100V
C220	1-108-686-11	MYLAR	0.0033MF 10% 100V	C1504	1-124-910-11	ELECT	47MF 20% 50V
				C1505	1-137-094-11	FILM	0.047MF 10% 100V
				C1507	1-108-686-11	MYLAR	0.0033MF 10% 100V
				C1508	1-124-903-11	ELECT	1MF 20% 50V
				C1509	1-124-903-11	ELECT	1MF 20% 50V
				C1511	1-124-927-11	ELECT	4.7MF 20% 50V
				C1512	1-137-045-11	FILM	0.0068MF 10% 400V
				C1513	1-163-105-00	CERAMIC CHIP	33PF 5% 50V
				C1514	1-137-102-11	FILM	0.022MF 10% 250V
				C1515	1-102-117-00	CERAMIC	820PF 10% 50V
				<DIODE>			
				D205	8-719-110-03	DIODE RD7.5ES-B2	
				D1407	8-719-921-77	DIODE MTZN-10C	
				D1408	8-719-110-14	DIODE RD9.1ES-B3	
				D1419	8-719-110-03	DIODE RD7.5ES-B2	
				D1421	8-719-110-03	DIODE RD7.5ES-B2	
				D1422	8-719-110-03	DIODE RD7.5ES-B2	
				D1424	8-719-110-03	DIODE RD7.5ES-B2	



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REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
D1425	8-719-110-03	DIODE RD7.5ES-B2		R240	1-216-033-00	METAL GLAZE 220 5%	1/10W
D1501	8-719-300-33	DIODE RU-3AM		R242	1-216-091-00	METAL GLAZE 56K 5%	1/10W
D1502	8-719-911-19	DIODE 1SS119		R245	1-216-075-00	METAL GLAZE 12K 5%	1/10W
D1503	8-719-911-19	DIODE 1SS119		R246	1-216-067-00	METAL GLAZE 5.6K 5%	1/10W
D1504	8-719-911-19	DIODE 1SS119		R249	1-216-075-00	METAL GLAZE 12K 5%	1/10W
D1505	8-719-911-19	DIODE 1SS119		R250	1-216-067-00	METAL GLAZE 5.6K 5%	1/10W
D1506	8-719-982-33	DIODE MTZJ-36D		R1415	1-216-083-00	METAL GLAZE 27K 5%	1/10W
D1507	8-719-911-19	DIODE 1SS119		R1417	1-216-023-00	METAL GLAZE 82 5%	1/10W
D1510	8-719-911-19	DIODE 1SS119		R1418	1-247-738-11	CARBON 82 5%	1/2W F
<IC>				R1420	1-216-295-00	METAL GLAZE 0 5%	1/10W
IC201	8-759-013-17	IC TDA6200		R1421	1-216-295-00	METAL GLAZE 0 5%	1/10W
IC1401	8-752-053-17	IC CXA1114P		R1422	1-216-025-00	METAL GLAZE 100 5%	1/10W
IC1402	8-759-946-32	IC TEA2014A		R1423	1-216-083-00	METAL GLAZE 27K 5%	1/10W
IC1403	8-759-040-53	IC MC14053BCP		R1424	1-216-083-00	METAL GLAZE 27K 5%	1/10W
IC1501	8-759-942-16	IC TEA2031A		R1425	1-216-045-00	METAL GLAZE 680 5%	1/10W
<JACK>				R1426	1-216-025-00	METAL GLAZE 100 5%	1/10W
J1402	1-561-534-41	SOCKET 21P		R1427	1-216-001-00	METAL GLAZE 10 5%	1/10W
<CONNECTOR>				R1428	1-216-113-00	METAL GLAZE 470K 5%	1/10W
J1-41	*1-566-641-11	CONNECTOR, HINGE (TAB) 18P		R1429	1-216-113-00	METAL GLAZE 470K 5%	1/10W
J1-43	*1-564-524-11	PLUG, CONNECTOR 9P		R1430	1-216-170-00	METAL GLAZE 68 5%	1/8W
J1-44	*1-564-527-11	PLUG, CONNECTOR 12P		R1433	1-216-033-00	METAL GLAZE 220 5%	1/10W
J1-51	*1-566-641-11	CONNECTOR, HINGE (TAB) 18P		R1434	1-249-393-11	CARBON 10 5%	1/4W F
<TRANSISTOR>				R1437	1-249-434-11	CARBON 27K 5%	1/4W
Q202	8-729-120-28	TRANSISTOR 2SC1623-L5L6		R1440	1-216-045-00	METAL GLAZE 680 5%	1/10W
Q1402	8-729-120-28	TRANSISTOR 2SC1623-L5L6		R1441	1-216-045-00	METAL GLAZE 680 5%	1/10W
Q1403	8-729-120-28	TRANSISTOR 2SC1623-L5L6		R1442	1-216-089-00	METAL GLAZE 47K 5%	1/10W
Q1404	8-729-216-22	TRANSISTOR 2SA1162-G		R1443	1-216-089-00	METAL GLAZE 47K 5%	1/10W
<RESISTOR>				R1445	1-216-095-00	METAL GLAZE 82K 5%	1/10W
JR1	1-216-295-00	METAL GLAZE 0 5%	1/10W	R1447	1-216-033-00	METAL GLAZE 220 5%	1/10W
JR2	1-216-295-00	METAL GLAZE 0 5%	1/10W	R1448	1-216-025-00	METAL GLAZE 100 5%	1/10W
JR3	1-216-295-00	METAL GLAZE 0 5%	1/10W	R1449	1-216-023-00	METAL GLAZE 82 5%	1/10W
JR4	1-216-295-00	METAL GLAZE 0 5%	1/10W	R1452	1-216-049-00	METAL GLAZE 1K 5%	1/10W
R204	1-216-085-00	METAL GLAZE 33K 5%	1/10W	R1453	1-216-049-00	METAL GLAZE 1K 5%	1/10W
R205	1-216-085-00	METAL GLAZE 33K 5%	1/10W	R1454	1-216-180-00	METAL GLAZE 180 5%	1/8W
R206	1-216-061-00	METAL GLAZE 3.3K 5%	1/10W	R1455	1-216-180-00	METAL GLAZE 180 5%	1/8W
R207	1-216-061-00	METAL GLAZE 3.3K 5%	1/10W	R1457	1-216-025-00	METAL GLAZE 100 5%	1/10W
R208	1-216-077-00	METAL GLAZE 15K 5%	1/10W	R1459	1-216-025-00	METAL GLAZE 100 5%	1/10W
R210	1-216-077-00	METAL GLAZE 15K 5%	1/10W	R1460	1-216-053-00	METAL GLAZE 1.5K 5%	1/10W
R211	1-216-097-00	METAL GLAZE 100K 5%	1/10W	R1461	1-216-190-00	METAL GLAZE 470 5%	1/8W
R212	1-216-081-00	METAL GLAZE 22K 5%	1/10W	R1462	1-216-057-00	METAL GLAZE 2.2K 5%	1/10W
R213	1-216-077-00	METAL GLAZE 15K 5%	1/10W	R1463	1-216-049-00	METAL GLAZE 1K 5%	1/10W
R215	1-216-081-00	METAL GLAZE 22K 5%	1/10W	R1464	1-216-061-00	METAL GLAZE 3.3K 5%	1/10W
R216	1-216-081-00	METAL GLAZE 22K 5%	1/10W	R1466	1-216-033-00	METAL GLAZE 220 5%	1/10W
R217	1-216-077-00	METAL GLAZE 15K 5%	1/10W	R1467	1-216-025-00	METAL GLAZE 100 5%	1/10W
R218	1-216-033-00	METAL GLAZE 220 5%	1/10W	R1468	1-216-025-00	METAL GLAZE 100 5%	1/10W
R219	1-216-073-00	METAL GLAZE 10K 5%	1/10W	R1469	1-216-025-00	METAL GLAZE 100 5%	1/10W
R220	1-216-057-00	METAL GLAZE 2.2K 5%	1/10W	R1471	1-216-023-00	METAL GLAZE 82 5%	1/10W
R221	1-216-041-00	METAL GLAZE 470 5%	1/10W	R1472	1-216-023-00	METAL GLAZE 82 5%	1/10W
R222	1-216-041-00	METAL GLAZE 470 5%	1/10W	R1473	1-216-023-00	METAL GLAZE 82 5%	1/10W
R225	1-216-049-00	METAL GLAZE 1K 5%	1/10W	R1474	1-216-113-00	METAL GLAZE 470K 5%	1/10W
R227	1-216-033-00	METAL GLAZE 220 5%	1/10W	R1476	1-216-089-00	METAL GLAZE 47K 5%	1/10W
R228	1-216-033-00	METAL GLAZE 220 5%	1/10W	R1477	1-216-089-00	METAL GLAZE 47K 5%	1/10W
R229	1-216-075-00	METAL GLAZE 12K 5%	1/10W	R1478	1-216-113-00	METAL GLAZE 470K 5%	1/10W
R230	1-216-079-00	METAL GLAZE 18K 5%	1/10W	R1480	1-216-190-00	METAL GLAZE 470 5%	1/8W
R234	1-216-057-00*	METAL GLAZE 2.2K 5%	1/10W	R1484	1-216-073-00	METAL GLAZE 10K 5%	1/10W
				R1485	1-216-073-00	METAL GLAZE 10K 5%	1/10W
				R1486	1-216-073-00	METAL GLAZE 10K 5%	1/10W
				R1487	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W
				R1488	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W
				R1489	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W
				R1501	1-216-081-00	METAL GLAZE 22K 5%	1/10W
				R1502	1-216-083-00	METAL GLAZE 27K 5%	1/10W
				R1503	1-216-113-00	METAL GLAZE 470K 5%	1/10W



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The components identified by shading and mark  $\Delta$  are critical for safety.  
Replace only with part number specified.

REF. NO.	PART NO.	DESCRIPTION	REMARK
R1504	1-216-085-00	METAL GLAZE 33K 5%	1/10W
R1505	1-216-081-00	METAL GLAZE 22K 5%	1/10W
R1506	1-216-113-00	METAL GLAZE 470K 5%	1/10W
R1509	1-216-105-00	METAL GLAZE 220K 5%	1/10W
R1510	1-216-067-00	METAL GLAZE 5.6K 5%	1/10W
R1511	1-216-049-00	METAL GLAZE 1K 5%	1/10W
R1512	1-216-073-00	METAL GLAZE 10K 5%	1/10W
R1513	1-216-091-00	METAL GLAZE 56K 5%	1/10W
R1514	1-216-049-00	METAL GLAZE 1K 5%	1/10W
R1515	1-216-117-00	METAL GLAZE 680K 5%	1/10W
R1516	1-216-079-00	METAL GLAZE 18K 5%	1/10W
R1517	1-216-033-00	METAL GLAZE 220 5%	1/10W
R1519	1-216-101-00	METAL GLAZE 150K 5%	1/10W
R1520	1-216-113-00	METAL GLAZE 470K 5%	1/10W
R1521	1-216-214-00	METAL GLAZE 4.7K 5%	1/8W
R1556	1-216-067-00	METAL GLAZE 5.6K 5%	1/10W

## &lt;VARIABLE RESISTOR&gt;

RV1501	1-238-023-11	RES. ADJ. CARBON 470K
RV1502	1-238-016-11	RES. ADJ. CARBON 10K
RV1503	1-238-017-11	RES. ADJ. CARBON 22K
RV1504	1-238-012-11	RES. ADJ. CARBON 1K
RV1505	1-238-023-11	RES. ADJ. CARBON 470K
RV1506	1-238-017-11	RES. ADJ. CARBON 22K
RV1507	1-238-009-11	RES. ADJ. CARBON 220
RV1508	1-238-016-11	RES. ADJ. CARBON 10K
RV1509	1-238-023-11	RES. ADJ. CARBON 470K

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MISCELLANEOUS

$\Delta$ 1-451-311-21	DEFLECTION YOKE (Y25FXA)
1-452-032-00	MAGNET, DISK; 10MM $\phi$
1-452-094-00	MAGNET, ROTATABLE DISK; 15MM $\phi$
$\Delta$ 1-460-091-11	COIL DEGAUSS
1-503-258-21	SPEAKER

$\Delta$ 1-590-762-11	CORD, POWER (WITH PLUG)
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V901 $\Delta$ 8-733-224-05	PICTURE TUBE (A59JWC60X)
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ACCESSORIES AND PACKING MATERIALS

PART NO.	DESCRIPTION	REMARK
4-200-618-61	MANUAL, INSTRUCTION (ENGLISH)	
*4-200-647-01	CUSHION (UPPER) (ASSY)	
*4-200-648-01	CUSHION (LOWER) (ASSY)	
*4-200-778-01	INDIVIDUAL CARTON	
*4-380-340-01	BAG, PROTECTION	

## REMOTE COMMANDER

1-465-796-11	CONTROL UNIT, REMOTE (RM-816)
4-031-670-01	COVER, POCKET (FOR RM-816)